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UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MONTANA
GREAT FALLS DIVISION

DEFENDERS OF WILDLIFE; and NATURAL RESOURCES DEFENSE COUNCIL, Plaintiffs, v. UNITED STATES ARMY CORPS OF ENGINEERS; UNITED STATES BUREAU	)	CV-15-14-GF-BMM **PLAINTIFFS' MEMORANDUM IN SUPPORT OF THEIR MOTION FOR MOTION FOR SUMMARY JUDGMENT ON CLAIMS 1, 2, 4, 5 AND 11–14**

OF RECLAMATION; and UNITED STATES FISH AND WILDLIFE SERVICE,	)
Defendants,	)
and	)
LOWER YELLOWSTONE IRRIGATION PROJECT BOARD OF CONTROL, SAVAGE IRRIGATION DISTRICT, and INTAKE IRRIGATION DISTRICT,	)
Defendant-Intervenors.	)

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GLOSSARY

Agencies	U.S. Army Corps of Engineers and U.S. Bureau of Reclamation
BiOp	Biological Opinion
Corps	U.S. Army Corps of Engineers
CWA	Clean Water Act
CWA Analysis	Clean Water Act Section 404(b)(1) Analysis
Defenders	Defenders of Wildlife and Natural Resources Defense Council
EA	Environmental Assessment
EIS	Environmental Impact Statement
ESA	Endangered Species Act
FPCI	Fish Passage Connectivity Index
Intake Dam	Intake Diversion Dam
Intake Project	Bypass Channel Alternative for Lower Yellowstone Intake Diversion Dam Fish Passage Project
ITS	Incidental Take Statement
NEPA	National Environmental Policy Act
Reclamation	U.S. Bureau of Reclamation
ROD	Record of Decision
RPA	Reasonable and Prudent Alternative
Service	U.S. Fish and Wildlife Service

ADMINISTRATIVE RECORD BATES PREFIXES

ACE	Corps administrative record (filed Oct. 21, 2015)
BOR-	Reclamation administrative record (filed Oct. 21, 2015)
FWS-	Service administrative record filed (filed Oct. 21, 2015)
NBOR	Reclamation administrative record (filed Nov. 22, 2017)
NFWS	Service administrative record (filed Nov. 22, 2017)
NUSACE	Corps administrative record (filed Nov. 22, 2017)

KEY ADMINISTRATIVE RECORD DOCUMENTS

DOCUMENT TITLE	RECORD LOCATOR
General	
Revised Recovery Plan for the Pallid Sturgeon (2014)	NUSACE0019194–319
Fort Peck Dam	
2003 Amended Biological Opinion, Missouri River Operations (2003)	NUSACE0026256–553
Intake Dam	
2016 Biological Opinion, Intake Project (2016)	NBOR0000004–77
Record of Decision, Intake Project (2016)	NBOR0012292–654
Final EIS, Intake Project – Executive Summary and Chapters 1–5 (2016)	NBOR0014392–5194
Final EIS, Intake Project – Clean Water Act Analysis (Appendix C)	NBOR0018632–734
Final EIS, Intake Project – FPCI Analysis (Appendix D)	NBOR0018735–840
Final EIS, Intake Project – Public Participation, Comments, and Responses (Appendix F)	NBOR0015195–6806
Final EIS, Intake Project – Independent External Peer Review Documentation (Appendix I)	NBOR0020539–668

INTRODUCTION

For decades, the U.S. Bureau of Reclamation (Reclamation) has operated the Intake Diversion Dam on the Yellowstone River and the U.S. Army Corps of Engineers (Corps) has operated Fort Peck Dam on the Missouri River in a manner that has driven the endangered pallid sturgeon to the brink of extirpation in Montana, in violation of the Endangered Species Act (ESA). Both dams disrupt spawning migrations and prevent any wild-born pallid sturgeon larvae from surviving. As a result, the wild pallid sturgeon population in the Upper Missouri River Basin now numbers fewer than 125 aging adults, all likely near the end of their lives. This population is on the verge of disappearing forever.

When the U.S. Fish and Wildlife Service (Service) listed the pallid sturgeon as endangered under the ESA in 1990, it determined that the drastic modification of river ecosystems by dams that block the sturgeon's ability to reproduce was a major factor driving the species towards extinction. Yet in the twenty-seven years since, neither Reclamation nor the Corps (the "Agencies") has modified its dam operations to avert the imminent extirpation of the wild population of pallid sturgeon and comply with the ESA.

Instead, the Agencies proposed, and the Service approved, the Intake Project, which will only make this dire situation worse. The Project involves replacing an existing timber-and-rock weir on the Yellowstone River with a

concrete dam and permanently filling a natural side channel that pallid sturgeon have used in the past to migrate around the site. Federal Defendants have staked the future of the species on an artificial bypass channel that may not pass any sturgeon at all, let alone restore their ability to reproduce in the wild. Gambling the pallid sturgeon's existence on unfounded speculation that the bypass channel will work places the entire risk of uncertainty on the species, a risk that cannot be reconciled with the ESA's explicit mandate to ensure against jeopardizing the species' survival and recovery.

This Court has already granted two motions for a preliminary injunction against this Project. In the most recent order, which is still in effect, the Court concluded that Plaintiffs Defenders of Wildlife and Natural Resources Defense Council (collectively, "Defenders") are likely to succeed on the merits of their challenges to the Service's 2016 Biological Opinion (BiOp) and Incidental Take Statement (ITS) under the ESA [Claim 12], the Agencies' Environmental Impact Statement (EIS) and Record of Decision (ROD) under the National Environmental Policy Act (NEPA) [Claim 11], and the Corps' Clean Water Act (CWA) 404(b)(1) Analysis [Claim 14]. Doc. 155. Defenders now seeks summary judgment on these claims, as well as on its challenge to the Agencies' unlawful reliance on the Service's 2016 Biological Opinion [Claim 13], its challenges to Reclamation's ongoing operation of Intake Dam in violation of the ESA [Claims 4 and 5] and its

challenges to the Corps' ongoing operation of Fort Peck Dam in violation of the ESA [Claims 1 and 2]. Defenders respectfully requests that the Court grant this motion and its requested relief as detailed below.

STATEMENT OF FACTS

I. THE CRITICALLY ENDANGERED PALLID STURGEON

The Service listed the pallid sturgeon, a six-foot-long fish that lives in the Missouri and Mississippi river basins, as endangered under the ESA in 1990. 55 Fed. Reg. 36,641 (Sept. 6, 1990). As this Court has previously recognized, in the Upper Missouri River Basin—the reach of the Missouri River between Fort Peck Dam and Lake Sakakawea as well as the Yellowstone River, the Missouri's largest tributary—"[f]ewer than 125 wild pallid sturgeons remain and the population appears in decline." Doc. 155 at 1. See also NBOR0000018. Indeed, "there could already be fewer than 100 wild adult fish," NBOR0014473, and recent data suggests the population has dwindled to between 85 and 112, NBOR0000023. The population has been decimated because no wild-born pallid sturgeon have successfully "recruited," i.e., survived to adulthood, in decades. NBOR0000053 ("[C]urrently there is no evidence that any recruitment has occurred since 1950…."); NBOR0014426 ("There has not been any known recruitment from natural spawning in the Upper Missouri River Basin (including the Yellowstone River) for many decades."). As a result, the few remaining wild fish in this basin

are likely more than 60 years old and nearing the end of their lives. NBOR0000023, 28, 34.

The lack of recruitment is due to the Corps' operation of Fort Peck Dam on the Missouri River and Reclamation's operation of Intake Dam on the Yellowstone River. Doc. 155 at 2 ("These two barriers prevent the pallid sturgeon from swimming far enough upriver to spawn successfully."); NBOR0000024. See also NUSACE0019215–18 (describing how dams and other river projects have altered historic pallid sturgeon habitat); 55 Fed. Reg. at 36,642, 36,644 ("Virtually all of the pallid sturgeon range has been altered in one form or another to the detriment of the species' survival."). The Upper Missouri River Basin sturgeon population spends much of the year in the Missouri River below the confluence with the Yellowstone. NUSACE0019216. From March to July, pallid sturgeon that are old enough to reproduce respond to spawning cues (i.e., increased flows) and begin migrating to upstream spawning habitat. NBOR0000015. On the Missouri's mainstem, however, flows released by the Corps from Fort Peck Dam are too low and too cold to provide the spawning cue that historically would have drawn sturgeon upstream. NUSACE0026405–06; NUSACE0019216; NBOR0000026.

Instead, adult sturgeon migrate up the Yellowstone. NUSACE0019216. However, nearly all these fish are blocked by Intake Dam, a rock-and-timber structure located about 70 miles upstream of the confluence with the Missouri.

NBOR0000033 ("[S]pawning above the weir is currently thought to be sporadic to nonexistent because adult wild fish are typically unable to move above the Intake Diversion Dam and spawn."). As a result, migrating sturgeon are forced to turn around. They generally spawn downstream at locations approximately six to twenty miles from the confluence with the Missouri. NBOR0000024.

However, larvae hatched in these locations do not have enough "drift distance" to survive. NBOR0000034. Larvae require approximately 150–330 miles of free-flowing river habitat to drift while they develop. NUSACE0019216 (2014 Recovery Plan describing required distance); NBOR0000016 ("Drift distance is critically important for survival."); NBOR00000017 (describing drift distance as "key to reproductive success").[1] If the larvae drift into oxygen-depleted reservoir waters before they can swim and feed themselves, they suffocate and die. Doc. 155 at 2; NUSACE0015437, 38 (oxygen-deprived habitat in the transition zone between river and reservoir habitat is "an ecological sink for Pallid Sturgeon" and "responsible for the lack of recruitment"); NBOR0000060 ("Lack of sufficient larval drift distance is thought to be the main reason that young fish are not being recruited into the population and the most likely impediment to

[1] Newly-hatched pallid sturgeon are often referred to as both "larvae," NUSACE0024394, and "free embryos," NBOR0000016. For ease of reference and to be consistent with the parties' and this Court's past practice, Defenders refer to this life stage as "larvae."

survival and recovery of pallid sturgeon in this area"). For those larvae hatched below Intake Dam, the drift distance is far too short—only about 21–72 miles before they reach Lake Sakakawea and die. NBOR0000034. See NBOR0000063 ("The most likely reason [for the failure to recruit] is that the drift distance from those spawning areas [below Intake Dam] to Lake Sakakawea is too short."); NUSACE0015071 (pallid sturgeon larvae "likely succumb to suffocation when settling" in transition zone from Missouri River to Lake Sakakawea). Thus, the few remaining wild fish in the Upper Missouri River Basin "are likely to be fish spawned before Lake Sakakawea was filled in the 1950s." NBOR0000023.

Restoring the habitat in the Upper Missouri River Basin has long been a focus for pallid sturgeon survival and recovery. See NUSACE0019251–52 (describing four recovery management units, one of which encompasses the Upper Missouri River Basin population); NBOR0000019 (management units are intended to "focus recovery efforts at locales believed to have the highest recovery potential").[2] This population, along with a small number of pallid sturgeon above Fort Peck Dam, is genetically distinct from all other pallid sturgeon populations. NBOR0014677; NUSACE0019214. See also NUSACE0056303 ("The Missouri

[2] The Service has set a recovery goal of a self-sustaining, genetically diverse population of at least 5,000 adult pallid sturgeon in this basin. NUSACE0019258.

and Yellowstone rivers in Montana support the most genetically pure Pallid Sturgeon population in the world….").[3] According to the State of Montana, "this genetic disparity demonstrates the importance of recovery efforts and decision-making regarding genetically pure Pallid Sturgeon, and underlines the fact that the species could be dependent upon the relatively small population of Pallid Sturgeon that reside in Montana and North Dakota." NBOR0016035.

In addition, both rivers have habitat that could provide for spawning and larval survival if dam operations were modified. For example, the Service believes that pallid sturgeon historically spawned in and near the Tongue and the Powder rivers, two tributaries of the Yellowstone upstream of Intake Dam. NBOR0000037. Indeed, in 2014, a female pallid sturgeon successfully navigated a natural side channel around the Dam and likely spawned in or near the Powder, which is approximately 98 miles upstream of the Dam. NBOR0000033–34. Four males also successfully navigated the natural channel that year, and one fish did so again in 2015. NBOR0000038. These were the first two years this side channel has been monitored. ACE0003990; NBOR0015003.

[3] There are likely "substantially fewer" than 45 wild fish remaining in the Missouri River upstream of Fort Peck Dam. NBOR0000018. These fish are separated from the remainder of the Upper Missouri River Basin population by the dam.

On the Missouri, an abundance of snow and rain in 2011 demonstrated that pallid sturgeon will migrate toward Fort Peck Dam if flows are suitable. That year, Fort Peck Lake was so high that the Corps was forced to release water over the spillway at Fort Peck, creating abnormally high flows. NBOR0000024; ACE0010573; ACE0010601; ACE0010604. Ten tagged wild adults (fish equipped with radio transmitters) responded by migrating at least 126 miles up the river, remaining there for the spawning season. ACE0011340. See also NUSACE0019216 ("[A] disproportionate number of adult Pallid Sturgeon migrated up the Missouri River and remained upstream of Wolf Point, Montana [] during the spawning period."); ACE0004526; ACE0010602. Spawning produced at least one larvae. NBOR0000024.

Neither river provides for larval survival or recruitment today due to Intake and Fort Peck Dam operations. Because each year brings this population closer to extirpation, the Service has taken steps to augment the wild population by releasing young, hatchery-raised sturgeon to the Yellowstone and Missouri Rivers. NBOR0000018. The hatchery-raised fish are not yet of reproductive age and it is still unknown whether they will attempt to migrate up the Missouri and Yellowstone in the same way that wild-born fish do. NBOR0014950 (EIS noting that "[b]ecause the stocked juveniles were not imprinted to spawning-reach water,

they may lack homing behavior to a natal site" and the "spawning reaches selected may not be the same as used by wild adults").

II. RECLAMATION'S OPERATION OF INTAKE DAM

Constructed in 1909 to irrigate local farms, Intake Dam is located about 70 miles upstream of the Yellowstone River's confluence with the Missouri River, north of Glendive, Montana. NBOR0012298; NBOR0012427. Reclamation owns Intake Dam and oversees four irrigation districts (the Defendant-Intervenors in this case) that operate it. NBOR0014429. See also NBOR0014514 (noting the districts operate the Dam through contracts with Reclamation). The Dam, composed of an underwater rock-and-timber weir with loosely piled rock on top, raises the water level just enough so that gravity moves water into an irrigation canal. NBOR0014427–28.

Because the river and ice consistently push the rocks off the structure and move them downstream, the Dam must be re-built most years by dropping rocks on it from an overhead trolley cableway, a process referred to as "rocking." NBOR0014514–15. See ACE0005251–52 (noting that in "[m]ost years the district places 300 to 400 cubic yards of rock" and "rocking has taken place almost every year since 1906"); NBOR00058543 (table listing volumes of rock placed from 1993–2015). Without the rocking, the dam would not be operable for irrigation. ACE0005251 (purpose of rocking "is to maintain the elevation and head of the

existing diversion dam so the district can divert their full water right"); ACE0007311 (2012 letter from Senator Max Baucus describing importance of rocking for irrigation district to receive full water right); NBOR0014439 (rocking required "[t]o maintain required water surface elevations"). Currently, the trolley used to perform the annual rocking needs replacement. NBOR0014439; NBOR0054745 ("The [trolley] structure is in bad shape. I would assume rehab or construction of a new one in the next 2 to 3 years."); NBOR0014439 ("The trolley system is old and there is continual risk of failure, which would require repair or replacement in order to continue to place rock."). The original structure may also need to be replaced. See NBOR0054745 (Reclamation official indicating that "we would need to assume total rehab or replacement of the existing diversion structure" because it is past the 100-year life expectancy of diversion structures under Reclamation policy).

Because Intake Dam adversely affects pallid sturgeon by preventing adult fish from swimming upstream to spawn, Reclamation has been required since 1990—the year the species was listed—to consult with the Service to ensure that its operations do not jeopardize the sturgeon in violation of ESA section 7(a)(2), 16 U.S.C. § 1536(a)(2). Reclamation and the Service began this mandatory process in 1992, but the Service did not issue a biological opinion on any aspect of Intake Dam operations until 2015, when Reclamation and the Corps proposed the Bypass

Channel Alternative for the first time, see infra Procedural History, Section I. NBOR0000009 (2016 BiOp explaining, "as early as 1992, the Service initiated discussions with Reclamation regarding obligations to consult and address fish passage and entrainment issues at Intake Diversion Dam"); NBOR000425–28 (Reclamation's biological assessment describing consultation history). Reclamation has never obtained a biological opinion from the Service addressing the agency's continuing, indefinite operation of Intake Dam, nor any proposed modification to the Dam other than the Intake Project.

Nonetheless, since 1992, the Service has consistently stated that these ongoing operations must be modified to comply with the ESA. See, e.g., NBOR000009 (Service "emphasized in 1993 the importance of fish passage" at Intake Dam); FWS-000603–04 (Service explaining in 2000 that it would issue a jeopardy opinion on the ongoing operations of Intake Dam unless Reclamation included fish passage and fish screens as part of the proposed action); FWS-001017 (Service biologist explaining in internal email in 2005 that "there are only two options that will insure no future jeopardy for [Reclamation] and both involve removing the dam and screening the intake"); FWS-004866 (Service biologist explaining in internal email in 2012 that if the Corps was not willing to fund a project to create fish passage, the Service would need to formally consult with Reclamation on existing Dam operations and prescribe an RPA). As one Service

biologist summarized during a 2013 inter-agency meeting: "If we can't reach an agreement using this forum and passage isn't achieved; then the Corps and [Reclamation] [are] open to litigation for violation of ESA. If nothing is done, Reclamation could receive a jeopardy BiOp." FWS-00007049. In 2016, a Service official noted on a conference call it would be "[h]ard to say no jeopardy if rocking continues." NBOR0002289–90.

Meanwhile, Reclamation's operation of Intake Dam continues unchanged and continues to preclude pallid sturgeon from naturally reproducing in the Yellowstone River.

III. THE CORPS' OPERATION OF FORT PECK DAM

Built in 1940, Fort Peck Dam is one of six large dams operated by the Corps on the mainstem of the Missouri River. NUSACE0037198. The Corps has discretionary control over the operation of Fort Peck Dam for multiple purposes, including flood control, irrigation, hydropower generation, recreation, and management of fish and wildlife. Id.; In re Operation of Mo. River Sys. Litig., 421 F.3d 618, 631 (8th Cir. 2005). The Corps operates the Dam pursuant to its long-range 2006 Master Water Control Manual and Annual Operating Plans. NUSACE0037198.

The Corps has completed two formal ESA consultations with the Service that address the impacts of the agency's Fort Peck Dam operations on pallid

sturgeon. The first consultation was completed in 2000 when the Service issued a biological opinion (2000 BiOp) concluding that the Corps' Missouri River operations, including those at Fort Peck, were likely to jeopardize and incidentally take pallid sturgeon by precluding the species from successfully reproducing in the wild. NUSACE0028982–84; NUSACE0029025–29. As required by the ESA, the 2000 BiOp provided several elements of a "reasonable and prudent alternative" (RPA) that, if implemented, would allow the Corps to comply with the ESA. However, the Corps never implemented the RPA elements intended to mitigate flow and temperature issues at Fort Peck Dam for the benefit of pallid sturgeon. NUSACE0038819–20 (2001); NUSACE0038482–83 (2002); NUSACE0038065–66 (2003).

In 2003, the Service issued an amended BiOp (2003 BiOp). NUSACE26256–553. The Service again concluded that the Corps' Fort Peck Dam operations jeopardize the pallid sturgeon by precluding successful spawning and recruitment in the wild. NUSACE0026423–24, 26. The Corps' operations eliminate the high spring flows that trigger upstream spawning migrations, release unnaturally cold water that affects spawning and slows larval development, and control reservoir levels that affect spawning cues and drift distance. NUSACE0026405–07; NUSACE0026480. Together, these factors determine how

many river miles are available for larvae to drift before they can swim on their own. NUSACE0026406.

The 2003 BiOp prescribed a series of RPA elements to restore a more natural hydrograph and provide the conditions necessary for spawning and recruitment. NUSACE0026464–83. See NUSACE0026476 ("[T]here is little debate that pallid sturgeon need a more normalized river….").[4] The Service explained that the RPA elements at issue in this case are "integral" to avoiding jeopardy to pallid sturgeon and mandated that the Corps implement them "in their entirety." NUSACE0026470; NUSACE0026475. These RPA elements prescribed: (1) flow modifications to cue spawning in the spring (RPA VII); (2) warm water releases to cue spawning and for faster larval development (RPA VIII); and (3) unbalancing of reservoir levels to allow high flow releases in the spring (RPA II). See NUSACE0026469–70; NUSACE0026480–82. The unbalancing would also change drift distances in certain years, depending on whether Lake Sakakawea is high or low. NUSACE0026406 ("When Lake Sakakawea is high, and flows from Fort Peck are high, the reach of river available to larval pallid sturgeon is reduced.").

[4] A hydrograph is "a graph showing the seasonal variation in the level of a body of water, from which its velocity and discharge can be calculated." https://www.collinsdictionary.com/us/dictionary/english/hydrograph.

The 2003 BiOp also concluded that the Corps' Fort Peck Dam operations incidentally take pallid sturgeon. NUSACE0026501–03. See 16 U.S.C. § 1538(a)(1)(B); id. § 1532(19), 50 C.F.R. § 17.3. Among other things, take occurs due to the "[l]oss of [the] spawning cue" and "[m]ortalities of early life stages" from low water temperature, inadequate drift distance, and other changes to the river habitat. NUSACE0026501–02. The Service issued the Corps an ITS on the condition that it implement the 2003 BiOp RPA. NUSACE0026501. The Service warned that "incidental take at a level which would not allow the pallid sturgeon to naturally reproduce, recruit and survive in the wild" in the recovery priority areas (like the Missouri River downstream of Fort Peck Dam) would be "unacceptable." NUSACE0026505.

In the fourteen years since the 2003 BiOp, the Corps has never implemented these essential elements of the RPA.[5] The Corps has never carried out the flow modifications or unbalancing as required by RPAs VII and II. The Corps started,

[5] The reasons for the lack of implementation have varied through the years: some years due to drought, some years due to floods, some years because of the focus on Intake Dam, see infra Statement of Facts, Section IV, some years because the Corps was awaiting the outcome of a Draft EIS on Missouri River operations, see infra, and other years there has been no reason given at all. ACE0030677, 79 (2004); NUSACE0037984 (2005); ACE0028595 (2006); ACE0026542 (2007); NUSACE0037834 (2008); ACE0019162 (2009); ACE001244 (2010); ACE0010601 (2011); ACE0006447, ACE0006470–73 (2012); ACE0004416, ACE0004401–02, ACE0004431–34 (2013); ACE0002328, ACE0002359–61 (2014); NUSACE0037246–47, NUSACE0037276–77 (2015).

but never completed, RPA VIII, which required investigation and implementation of a temperature control device. In the meantime, the Corps' operations have continued to prevent pallid sturgeon spawning and recruitment.

From 2007–2012, instead of implementing these RPA elements, the agency focused on a fish passage project for Intake Dam, described infra. The Corps is now developing a new management plan for the Missouri River and released a draft environmental impact statement (EIS) on that plan in December 2016. NUSACE0000187. However, the preferred alternative in the Draft EIS contemplates fifteen years of additional studies, continuation with the hatchery program, and adaptive management, but does not propose any changes that would ameliorate the effects of the Corps' Fort Peck Dam operations on pallid sturgeon. NUSACE0000330–37; NUSACE0000371–76. The Corps and the Service have also reinitiated consultation on this plan. NBOR0000011.

Meanwhile, Fort Peck Dam operations continue unchanged and the wild population of the pallid sturgeon continues to shrink through attrition. In the 2003 BiOp, the Service predicted that unless the flow modifications prescribed by the RPA were implemented, the wild population would be extirpated from this reach of the Missouri River by 2018, NUSACE0026481, and urged the Corps not to delay remedial action any longer, NUSACE0026269. See id. ("[T]he opportunity and capability to achieve recovery may be lost in the very near future if these

underlying issues are not addressed."). Fourteen years later, those changes have never been implemented and this population is now on the brink of extirpation.

IV. THE DEVELOPMENT OF THE INTAKE PROJECT

Unwilling to implement the RPA elements at Fort Peck Dam from the 2003 BiOp, the Corps turned its attention to Intake Dam. In 2007, Congress authorized the Corps to use funds from its recovery program on the Missouri River for "ecosystem restoration" at Intake Dam. Water Resources Development Act of 2007, Pub. L. No. 110-114, sec. 3109, 121 Stat. 1041.[6] For the next several years, the Corps and Reclamation's efforts to address Reclamation's ESA violations at Intake proceeded in fits and starts. The Agencies started a NEPA process to evaluate alternatives in 2008. NBOR0000009. In 2010, Reclamation and the Corps adopted a plan to construct a new concrete diversion dam, a rock-lined ramp over the dam for pallid sturgeon passage, and a new headworks facility with fish screens to reduce the entrainment of fish in the irrigation canal. Id.; ACE0005208. The new headworks facility was constructed, but the Agencies abandoned the plan

[6] In exchange for the Corps funding modifications at Intake Dam, the Service agreed to "amend" the 2003 BiOp to eliminate the RPAs at Fort Peck Dam through a series of letter agreements. NUSACE0037796 (Oct. 23, 2009 Service letter); NUSACE0037777 (Apr. 10, 2010 Service letter); ACE0006670–74 (Feb. 6, 2013 Service letter); NUSACE0018485–88 (Mar. 19, 2014 Service letter); ACE0003160–79 (Mar. 30, 2015 Service letter). Defenders challenged this unlawful procedure. Doc. 119 ¶¶ 228–33, ¶¶ 255–60. In 2016, the Corps backed off an explicit quid pro quo for eliminating the Fort Peck Dam RPA. NBOR0000011.

to build the concrete dam with a rock ramp primarily due to costs. NBOR0000009–10; ACE0005208. During an informal ESA consultation to address the effects of the already-constructed headworks facility on pallid sturgeon, the Service reminded Reclamation of the pressing need to address the fish passage issues:

> [W]e are concerned that fish passage has not yet been provided per original agreements, and will be delayed beyond original timeframe estimates for an unspecified period…. It is therefore implicit in our concurrence that, consistent with previously agreed-upon overall Intake Project objectives and Reclamation and Corps commitments, analysis of fish passage alternatives will continue and means for providing such passage will be proposed and implemented in a timely manner.

ACE0005211.

The Agencies next identified the construction of a new dam and artificial bypass channel (what is now the "Intake Project") as their preferred solution. By December 2012, a high-level Department of Interior official advised the Corps that a "constructed, low-head concrete weir" was "integral" to the project, seemingly foreclosing any other alternative. ACE0007309.

The Project stalled in 2013 when Montana Fish, Wildlife and Parks (FWP) formally stated its opposition, ACE0005345, in part because the standards for success had changed from biological, i.e., whether pallid sturgeon would recruit and recover, to hydrologic, i.e., whether the bypass channel would be built to particular specifications, ACE0006668. In response to FWP's objections, the

Agencies halted the project and agreed to a "fast-track value planning study" to reevaluate all alternatives in consultation with FWP and other stakeholders. ACE0005860.

During this time-out, the Corps made clear to Montana, Reclamation, and the Service that it would fund only the bypass channel:

> The key message [the Corps] has conveyed to Federal and State agency partners and stakeholders is if the current preferred Project alternative [the dam/bypass channel alternative] is not supported by the state of Montana for implementation in FY14, then [the Corps] would continue to participate in the process of identifying a workable alternative on a reimbursable basis but would not lead the effort or fund Project implementation.

ACE0005859 (internal issue paper). See id. (Corps position is that "[i]f the Project cannot be implemented in a timely manner beginning in FY14, then [the Corps] must divert funds currently programmed for the Project to meet other critical endangered species recovery obligations"); ACE0005670 (August 2013 email in which Corps official recounts his conversation with John Tubbs, Director of the Montana Department of Natural Resources and Conservation (DNRC): "I also

indicated that any recommended option that was not the original bypass channel with weir would result in the Corps no longer participating in the project.").[7]

In August 2013, the State of Montana (representing FWP and DNRC) offered conditional support for the bypass channel and the Agencies moved forward with the NEPA process. ACE0005347.

PROCEDURAL HISTORY

I. THE COURT'S 2015 PRELIMINARY INJUNCTION AGAINST THE INTAKE PROJECT

On February 2, 2015, Defenders filed suit challenging the ongoing operations at both Intake Dam and Fort Peck Dam. Doc. 1. Less than three months later, on April 1, 2015, Reclamation and the Corps selected the Bypass Channel Alternative and issued a Finding of No Significant Impact (FONSI) and accompanying Environmental Assessment (EA) to support the decision. BOR-0007730–BOR-0007737 (FONSI); BOR-0007738–BOR-0007895 (EA). The EA

[7] This was not the first time the Corps threatened to drop the Project in response to conditions proposed by other agencies. For example, in 2010, the Montana Department of Environmental Quality issued a CWA section 401 certification memorandum for the rock ramp that required additional mitigation measures. ACE0014883–84. The Corps responded forcefully that mitigation requirements "will not fly" and that the Corps could drop funding for the project. ACE0014883. "This project will be dead upon arrival, period. If this is not resolved in Wednesday's conversation, we will be forced to move the money immediately to execute other projects in the recovery program…. This project will not have a window to happen again." Id.

identified only two action alternatives—the previously rejected rock ramp and the Bypass Channel Alternative. BOR-0007759–72.

The Agencies approved the Intake Project without complying with the ESA's consultation requirement. Three months after the Agencies approved the Project, the Service belatedly issued a biological opinion concluding that the Intake Project would not jeopardize either the survival or recovery of the pallid sturgeon. NBOR0000004–77.

Defenders supplemented its complaint twice to address the release of these new approval documents. Docs. 36, 52. On September 4, 2015, the Court preliminarily enjoined the Project. Doc. 73.[8] The Court held, among other things, that there were "substantial questions going to the merits" regarding Defenders' claim that: (1) the Agencies' EA failed to analyze the impact of the Intake Project on pallid sturgeon recovery (successful spawning and recruitment); and (2) that an EIS was required. Id. at 15.

II. THE 2016 NEW APPROVALS OF THE INTAKE PROJECT

In the wake of the 2015 preliminary injunction, the parties agreed to stay the case while the Agencies reassessed the project in an EIS. Doc. 84.

[8] Due to the staggered releases of the approval documents, Defenders filed two successive preliminary injunction motions. Docs. 27, 28 & Docs. 53, 54.

However, less than a year later, the Agencies reached the exact same result. On December 2, 2016, the Agencies issued a Record of Decision (ROD) that again adopted the Intake Project. NBOR0012292–654. To support the ROD, the Agencies published the Final EIS on October 21, 2016, NBOR0014392, the Service issued a new biological opinion on November 18, 2016 concluding that the Project would not jeopardize the species, NBOR0000004, and the Corps issued a new CWA section 404 analysis ("CWA Analysis") determining that the Project complied with the CWA, NBOR0018632.

As in 2015, the Project involves building a new concrete dam across the Yellowstone River that will block pallid sturgeon from reaching upstream spawning grounds. NBOR0014527–28. The Agencies will leave the existing dam and downstream boulder field in place. NBOR0014521. In addition, the Agencies plan to block the existing natural side channel that sturgeon have used to swim around the existing dam. NBOR0012310, NBOR0014527. To attempt to mitigate the harm caused by the Project, the Agencies will construct an artificial bypass channel around the dam. NBOR0012310; NBOR0014521–30. After the concrete dam is constructed, the irrigation districts will not have to pay for annual rocking. NBOR0014522. The Agencies forecast that the construction of the Intake Project will take two to three years, NBOR0000061, and cost approximately $57 million, NBOR0014442.

In the EIS, the Agencies identified and assessed more alternatives than they had analyzed in the 2015 EA, including two alternatives that would restore the Yellowstone River as a free-flowing river and divert the requisite amount of water necessary for irrigation purposes through other methods. See NBOR0014539–72. Under one of these dam removal alternatives, the "Multiple Pump Alternative," the existing structure would be removed and five pumps would be installed downstream of the remnant facilities to move water into the irrigation canal, NBOR0014539–42, at an estimated total cost of approximately $132 million, NBOR0014442. This alternative would continue the same gravity diversions when conditions permit while employing the pumps when necessary. NBOR0012306. Under this alternative, "the full water right of 1,374 [cubic feet/second] would continue to be delivered." NBOR0014842. The annual operation and maintenance costs for the Multiple Pump Alternative are estimated at $4.9 million, NBOR0012306, compared to $2.8 million for the Intake Project, NBOR0012305. The Agencies rejected the Multiple Pump Alternative primarily because it cost more than the Intake Project and would result in higher operation and maintenance costs. NBOR0012311–13; NBOR0014443. See also NBOR0018718–21.

Numerous scientists noted that dam removal is the best alternative for pallid sturgeon survival and recovery. See, e.g., NBOR0012381 ("MTAFS [Montana Chapter of the American Fisheries Society] is of the opinion that the most

scientifically defensible alternative that would support Pallid Sturgeon recovery would include removal of the existing weir and opening the main channel of the Yellowstone River"); NBOR0016059 (Upper Basin Pallid Sturgeon Work Group commenting, "[w]e believe the most beneficial alternative for Pallid Sturgeon would involve removing the existing barrier to provide full-river passage and investing in more contemporary methods of water delivery."); NBOR0016043 (State of Montana commenting that "[r]emoval of the dam would remove risk to upstream and downstream passage of all life cycle stages of migratory fish"). As the Service acknowledged in 2016, "[t]he desired baseline condition is unimpeded movement by pallid sturgeon through the free-flowing Lower Yellowstone River." NBOR0001493.

While dam removal is indisputably the best alternative for the pallid sturgeon's survival and recovery, over the years, Federal Defendants have focused less on that goal, and more on merely providing for some upstream passage. In 2009, when the Service first "amended" the Fort Peck Dam RPA to substitute the Intake Project for the existing RPA elements, the relevant success criteria included a requirement that pallid sturgeon monitoring and data "must indicate … that survival of naturally produced pallid sturgeon is sufficient to establish a self-sustaining population in the lower Yellowstone and Missouri Rivers between Fort Peck Dam and Lake Sakakawea." NUSACE0037800 (emphasis added);

NUSACE0037796 (explaining that Corps would not need to conduct Fort Peck Dam flow tests if success criteria are achieved within eight years). In contrast, for the 2016 EIS, the Service recommended "success criteria" for the Agencies that indicate the need to monitor larval survival at the Project site, but do not require any evidence of such survival, recruitment of sturgeon to the adult population, or progress toward the establishment of a self-sustaining population. NBOR0001493–97. Instead, the primary benchmark for success is a goal of at least 85 percent of the adults that approach the Dam using the bypass channel, with no reference to or requirement for recruitment. NBOR0001494.

Notably, nothing in the BiOp or the EIS demonstrates that the Project will meet any passage goal. Independent scientists repeatedly noted that there was no evidence to assume that any pallid sturgeon would use the channel. See infra Argument, Section I.D.1. According to the Service, "it is impossible to prove whether fish will, or will not, use the new bypass channel." NBOR0000053.

III. DISSOLUTION OF THE 2015 PRELIMINARY INJUNCTION

Two months after issuing the ROD, the Agencies filed a motion to dissolve the September 2015 preliminary injunction. Doc. 100. On April 19, 2017, the Court dissolved the injunction, finding that "Federal Defendant's 2016 EIS and 2016 ROD have attempted to address adequately pallid sturgeon recovery and probability of success of the bypass channel." Doc. 118 at 14. The Court did not

address whether the new analyses in the EIS, 2016 BiOp, or CWA Analysis are sufficient to comply with federal environmental laws. Id. at 16.

The Court simultaneously granted Defenders' motion for leave to file a Fourth Supplemental and Amended Complaint challenging the adequacy of these documents. Id. at 15–16. The Court also recognized that a second preliminary injunction motion was likely forthcoming and could very well be granted. Id. at 16 ("Federal Defendants should consider at this stage of the proceedings the potential risk of a future preliminary injunction pursuant to these claims."). The Court added: "Defenders' challenge of the project remains viable" and "the Court [will] address potentially meritorious claims under the Clean Water Act, the ESA, and NEPA." Id. Defenders immediately filed its Fourth Supplemental and Amended Complaint, adding Claims 11–14 challenging the new decision documents under these three statutes. Doc. 119.

IV. THE JULY 5, 2017 PRELIMINARY INJUNCTION AGAINST THE INTAKE PROJECT

On July 5, 2017, the Court enjoined construction of the Intake Project for a second time. Doc. 155.[9] This time, the Court held that Defenders was "likely to succeed" on the merits of their ESA, NEPA, and CWA claims. Id. at 6–16.

[9] Federal Defendants and Defendant-Intervenors appealed this ruling to the Ninth Circuit. The appeal is fully briefed. See No. 17-35712 (consolidated with No. 17-35713).

With respect to the ESA claim, the Court ruled that Defenders is likely to succeed on the merits of its challenge to the 2016 BiOp for two significant reasons. First, the Intake Project is authorized by the Service's ITS to take 59 percent of adult sturgeon that reach the new dam, but the Service never evaluated whether sturgeon can withstand this level of impact. Id. at 8–12. Second, the Service never developed a metric for determining a defined "tipping point" precluding recovery, nor measure the Project's impacts against that benchmark. Id. at 12–16. As a result, the Service's claim that the Intake Project represents an improvement over existing jeopardy conditions, which is based on speculation, says nothing about whether it will impede sturgeon recovery.

The Court next found that the Agencies' EIS likely violated the NEPA requirement for a candid alternatives analysis that allows the public to understand the impact of the proposed action and its alternatives. Id. at 22–25. Finally, the Court determined that the Corps' CWA Analysis used the wrong test for authorizing projects under the CWA. Id. at 26–28. Instead of determining whether the Multiple Pump Alternative was practicable, as the CWA requires, the Corps compared the relative practicability of all the alternatives and settled on the Intake Project as the "most" practicable. Id. In so doing, the Corps failed to determine which is the least-damaging practicable alternative, in violation of its substantive CWA responsibilities. Id. at 28.

During briefing on the two preliminary injunctions and the dissolution motion, the Agencies have argued to the Court that the Intake Project will likely not go forward at all should an injunction issue, including by suggesting that appropriated funds will be used elsewhere if construction is delayed. Doc. 140-2 ¶¶ 4–5 (Corps official stating in May 2017 that "it is difficult to predict how this project would be prioritized for Corps funding in the future" if the project is enjoined a second time); Doc. 101-3 ¶ 7 (Corps official stating in Feb. 2017 that if first injunction is not dissolved by April 15, 2017, it "very likely eliminates the Corps' ability to fund the project at all"); Doc. 46-4 ¶ 16 (Corps official stating in July 2015 that "[i]t is uncertain" whether funds will be available "in future years" if the Project is enjoined). See also Doc. 118 at 4 (this Court acknowledging risk to Corps funding and "tak[ing] into account this urgency" in resolving motion to dissolve injunction). Nonetheless, there is no indication that those funds have vanished or that the Corps has abandoned the Intake Project, despite the Corps' repeated protests and two preliminary injunctions.

STANDARD OF REVIEW

A motion for summary judgment should be granted when "there is no genuine issue as to any material fact and the moving party is entitled to judgment as a matter of law." Fed. R. Civ. P. 56(c). Summary judgment is appropriate for resolving a challenge to a federal agency's actions when review is based primarily

on an administrative record. Pit River Tribe v. U.S. Forest Serv., 469 F.3d 768, 778 (9th Cir. 2006).[10]

Courts apply the APA standard of review to ESA, NEPA, and CWA claims. Native Ecosystems Council v. Dombeck, 304 F.3d 886, 891–92 (9th Cir. 2002) (ESA and NEPA); Friends of the Earth v. Hintz, 800 F.2d 822, 830–31 (9th Cir. 1986) (CWA). Specifically, the reviewing court "shall" hold unlawful and set aside agency actions found to be "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law" or "without observance of procedure required by law." 5 U.S.C. § 706(2)(A), (D). Applying the arbitrary and capricious standard, the reviewing court determines if the agency has "relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise." Nat'l Ass'n of Home Builders v. Defenders of Wildlife, 551 U.S. 644, 658 (2007) (citation omitted). In other words, the Court must evaluate whether the agency "considered

[10] In general, the scope of review for ESA citizen-suit claims such as Defenders' claims 1, 2, 4, 5, and 13 is not limited to an administrative record. See, e.g., W. Watersheds Project v. Kraayenbrink, 632 F.3d 472, 497 (9th Cir. 2011). However, for the purposes of this motion, the parties agreed that the relevant documents before the Court are contained in the administrative records. Doc. 158 at 2 n.1; Doc. 170.

the relevant factors, [and] articulated a rational connection between the facts found and the choice made." Balt. Gas & Elec. v. NRDC, 462 U.S. 87, 105–06 (1983). See also Ocean Advocates v. U.S. Army Corps of Eng'rs, 402 F.3d 846, 859 (9th Cir. 2005).

ARGUMENT

For decades, Reclamation and the Corps have avoided implementing the actions the Agencies have known were necessary to ensure their dam operations would not jeopardize the endangered pallid sturgeon and to restore the species' ability to reproduce in the wild. As a result, the wild-born population of pallid sturgeon in the Upper Missouri River Basin continues to decline and is on the brink of extirpation.

Reclamation and the Corps' refusal to modify these operations and Reclamation's, the Corps', and the Service's 2016 approvals of the Intake Project violate three federal statutes in numerous ways. Defenders is entitled to judgment on the following claims. First, the Service's 2016 BiOp and ITS for the Intake Project violate the ESA [Claim 12]. Second, the Corps' and Reclamation's reliance on the unlawful Biological Opinion to authorize the Intake Project violates their ESA section 7 substantive duty to avoid jeopardizing the pallid sturgeon [Claim 13]. Third, the Corps' and Reclamation's ROD and EIS for the Intake Project violate NEPA by failing to provide the public with a meaningful

comparison of very different alternatives [Claim 11]. Fourth, because the Corps' CWA Analysis for the Intake Project applies an unlawful standard, the agency violated its substantive statutory obligation to choose the least environmentally-damaging practicable alternative [Claim 14]. Fifth, Reclamation has failed to ensure that its existing operation of Intake Dam does not jeopardize the pallid sturgeon and is unlawfully taking pallid sturgeon without an ITS in violation of ESA sections 7 and 9 [Claims 4 and 5]. Finally, the Corps has failed to ensure that its ongoing operation of Fort Peck Dam does not jeopardize the pallid sturgeon and is unlawfully taking pallid sturgeon without a valid ITS in violation of ESA sections 7 and 9 [Claims 1 and 2].

I. THE SERVICE'S 2016 BIOLOGICAL OPINION AND INCIDENTAL TAKE STATEMENT FOR THE INTAKE PROJECT VIOLATE THE ESA AND APA

The Service's Biological Opinion concluding that the Intake Project would not jeopardize the continued existence of the pallid sturgeon and the accompanying ITS violate the ESA and the APA for five separate reasons. First, the Service failed to analyze whether the take of 59 percent of adult pallid sturgeon approaching the new dam would jeopardize the species. Second, the Service failed to evaluate properly the Project's impacts on the species' survival and recovery. Third, the Service's conclusion that the Project represents an improvement for the species is unsupported by the BiOp, fails to consider a relevant factor, and is based on an

arbitrary comparison to another sturgeon species. Fourth, the Service failed to evaluate the short-term impacts of the Project in the context of a population that is dying out. Finally, the Service issued an unlawful ITS. Defenders is entitled to summary judgment on Claim 12.

A. ESA Statutory Framework

The ESA serves as a safety net for species at risk of extinction and facilitates the recovery of imperiled species. See Gifford Pinchot Task Force v. U.S. Fish & Wildlife Serv., 378 F.3d 1059, 1070 (9th Cir. 2004), amended on other grounds, 387 F.3d 968 (9th Cir. 2004) ("[T]he ESA was enacted not merely to forestall the extinction of a species (i.e., promote a species survival), but to allow a species to recover to the point where it may be delisted."). Indeed, Congress enacted the ESA "to provide a program for the conservation of … endangered species" and "to provide a means whereby the ecosystems upon which [such] … species depend may be conserved. 16 U.S.C. § 1531(b). "Conservation" and "conserve" mean "to use and the use of all methods and procedures which are necessary to bring an endangered species … to the point at which the measures provided pursuant to [the ESA] are no longer necessary"—i.e., to recover such species from imperiled status. Id. § 1532(3). See also 50 C.F.R. § 402.02 (defining "recovery").

1. ESA Section 7

ESA section 7(a)(2) prohibits federal agencies from taking discretionary actions that are "likely to jeopardize the continued existence of any endangered species…." 16 U.S.C. § 1536(a)(2). "Jeopardy" results when it is reasonable to expect that the action would "reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species." 50 C.F.R. § 402.02. See also NWF v. NMFS, 524 F.3d 917, 931–33 (9th Cir. 2008) (NWF I) (affirming that the jeopardy analysis includes determining impact of agency action on species' ability to recover).

To meet this standard, the ESA imposes a "consultation" process on federal agencies. Consultation is required when an "action agency" proposes to take any discretionary action that "may affect" a listed species. See 16 U.S.C. § 1536(a)(2); 50 C.F.R. § 402.14(a); NWF I, 524 F.3d at 924. At the conclusion of consultation, the Service provides the action agency with a "biological opinion" (BiOp) detailing whether the action is likely to cause jeopardy, and, if so, identifying "reasonable and prudent alternatives" that avoid this violation. 16 U.S.C. § 1536(b)(3)(A); 50 C.F.R. §§ 402.02, 402.14(g), (h).

2. ESA Section 9

The ESA also prohibits any person, including federal agencies, from "taking" individual members of an endangered species of fish or wildlife. 16

U.S.C. § 1538(a)(1)(B). Prohibited takings include activities that "harm" or "harass" species. Id. § 1532(19). "Harm" is defined as "significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering." 50 C.F.R. § 17.3. "Harass" is defined as "an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns…[including] breeding." Id.

Notwithstanding this prohibition, if the Service concludes that an action is not likely to jeopardize the species, the Service can permit federal agency actions that may result in incidental take of individual members of that species. 16 U.S.C. §§ 1536(b)(4), (o)(2); 50 C.F.R. § 402.14(i). Typically, this occurs through the ESA's consultation process and is formalized in an ITS attached to a BiOp. Ariz. Cattle Growers' Ass'n v. U.S. Fish and Wildlife Serv., 273 F.3d 1229, 1241–42 (9th Cir. 2001) (issuance of ITS predicated on finding take of endangered species will occur); 50 C.F.R. § 402.14(g)(7) (Service required to "formulate a statement concerning incidental take, if such take may occur"). An ITS shields an agency action from take liability and the civil and criminal penalties for unpermitted take. See Bennett v. Spear, 520 U.S. 154, 170 (1997) (an "Incidental Take Statement

constitutes a permit authorizing the agency action to 'take' the endangered or threatened species").

The Service is required to specify the "amount or extent" of permitted incidental take. 50 C.F.R. § 402.14(i). The Ninth Circuit has expressed a preference for this limit to be a "numerical cap." ONRC v. Allen, 476 F.3d 1031, 1037 (9th Cir. 2007). However, where the Service "establish[es] that no such numerical value could be practically obtained," the Service may use a "surrogate" instead of a "numerical cap," provided that surrogate is "linked to the take of the protected species." Id. at 1037, 1038. See also 50 C.F.R. § 402.14(i). The surrogate "must be able to perform the functions of a numerical limitation" and must include a measurable limit that triggers reconsultation when exceeded. Allen, 476 F.3d at 1038.

Pursuant to the ITS regulations that were amended after Allen (and consistent with its holding), a surrogate is permissible provided that the BiOp or the ITS "[d]escribe the causal link between the surrogate and the take of the listed species" and "set[] a clear standard for determining when the level of anticipated take has been exceeded." 50 C.F.R. § 402.14(i)(1)(i). The ITS also "must articulate a rational connection between the surrogate and the taking of the species." Wild Fish Conservancy v. Salazar, 628 F.3d 513, 531 (9th Cir. 2010). Setting a "clear standard" for determining when the take limit is exceeded is

critical because the take limit serves as a trigger for reconsultation if the impacts of the action are more significant than anticipated. 50 C.F.R. § 402.16(a); Ariz. Cattle Growers' Ass'n, 273 F.3d at 1249. Similarly, the ITS may not allow the taking of all the individuals affected by a particular project because, without a take limit, the ITS provides no meaningful trigger for reconsultation. Allen, 476 F.3d at 1038–41.

B. The Service Failed to Evaluate Whether Taking 59 Percent of Adult Sturgeon Attempting to Migrate Upstream Will Result in Jeopardy

The Service authorized the Intake Project to take 59 percent of the adult sturgeon that approach the new dam by preventing those adults from breeding. NBOR0000068 (describing take of these adults as "impairment of breeding"). See Doc. 155 at 8 (recognizing take "include[s] the prevention of breeding at issue in this case"). This take will occur when adults approaching the dam turn around rather than use the bypass channel to migrate upstream. NBOR0000050. They will then be forced to spawn downstream and their offspring will not survive. The Service based its take authorization on data from 2014, when five of the twelve (41 percent) tagged pallid sturgeon that reached Intake Dam used the natural side channel to pass upstream. See NBOR0000050 (in 2014, "41% of the fish detected at the Intake Diversion Dam passed upstream using the high flow channel").

Yet, as this Court concluded in the 2017 preliminary injunction order, the BiOp never evaluates the impact of taking 59 percent of the adults that reach the new dam each year. Doc. 155 at 12 ("Federal Defendants have failed to explain whether the pallid sturgeon could survive a 59 percent take rate."); id. at 9 ("The record fails to include any indication that Federal Defendants analyzed whether the pallid sturgeon could withstand a 59 percent loss level as contemplated by the ITS."). The Service neither asks nor answers whether this significant take level will reduce the sturgeon's ability to survive and recover, nor explains why. The Service's failure to conduct this analysis violates the ESA and its implementing regulations, which prohibit the Service from authorizing a level of "take" that would jeopardize the species. Id. (citing 16 U.S.C. § 1536(b)(4)). See also 50 C.F.R. § 402.14(i)(1) (Service provides ITS upon finding take amount will not cause jeopardy).

In a similar situation, another district court found that a BiOp was unlawful where the incidental take authorization allowed for 12 percent habitat loss for two endangered fairy shrimp species, but failed to evaluate whether the species could withstand that loss. Sw. Ctr. for Biological Diversity v. Bartel, 470 F. Supp. 2d 1118, 1146–49 (S.D. Cal. 2006). See also Pac. Coast Fed'n of Fishermen's Ass'ns v. Gutierrez, 606 F. Supp. 2d 1122, 1171–72 (E.D. Cal. 2008) (holding biological opinion arbitrary because "[h]ow extirpation of approaching one-third of the

species affected by Project operations does not constitute jeopardy is not explained."). Here, too, the Service fails to provide any explanation as to whether (or how) the already-precarious population of pallid sturgeon will not be jeopardized where more than half of the adults that approach the dam could be prevented from breeding. See Doc. 155 at 9–12.

The Service's failure to assess the impacts of the losses it authorized is particularly striking because very few wild adults approach Intake Dam in any given year. The BiOp assumes that 125 wild adults remain. NBOR0000039. Only 12–26 percent of this wild population—between 15 and 32 individuals—will swim up the Yellowstone as far as the Dam annually. NBOR0000044. Thus, if only 41 percent of those individuals use the bypass channel to swim upstream, between six and thirteen wild adults might use the bypass channel in any given year. That means the entire future of the species, insofar as the perpetuation of this genetically distinct wild population is concerned, depends on those six to thirteen

fish. The BiOp never addresses whether this very low number of potential spawners is sufficient to avoid jeopardy.[11]

In preliminary injunction briefing, Federal Defendants cited to individual pages in the BiOp that purportedly analyzed the impact of the authorized take limit. Doc. 140 at 29–30. But the Court rightly concluded that these citations were "unavailing." Doc. 155 at 10. The cited pages acknowledge that the Service authorized a 41 percent passage rate. But nowhere does the Service analyze how this passage rate might affect the pallid sturgeon population. That is, if the entire authorized amount of take occurs—meaning that only six to thirteen wild adults pass the dam each year—the Service never assessed whether this take limit will allow sturgeon to naturally reproduce and recruit at sufficient levels to avoid jeopardizing this imperiled species' survival and recovery.

This Court also rejected the Service's assertion that the BiOp need not analyze this level of take because the Service considers it an overestimate. Id. at

[11] The BiOp notes that there are thousands of hatchery-born fish in the Yellowstone and Missouri River approaching reproductive age. NBOR0000062. While the BiOp notes that some hatchery fish have been detected near Intake Dam, NBOR0000063, the Service refers to these fish as a "potential multiplier," NBOR0000062, but does not directly assert that these fish will migrate upstream like wild fish—a behavioral trait that Federal Defendants have conceded elsewhere is unknown—or use the bypass channel. NBOR0014950. Regardless, to the extent the hatchery-born fish are integral to the BiOp's conclusion, the Service did not analyze whether the population of these fish could withstand the 59 percent take authorization either.

9–12 (relying in part on Bartel, 470 F. Supp. 2d at 1148). The Service's argument is untenable for several reasons. First, even if the 59 percent take level is an overestimate, the BiOp does not analyze the effects of any passage rate on pallid sturgeon survival and recovery. Second, an ITS has two distinct legal functions: it provides a safe harbor from ESA section 9 liability and also acts as the trigger for reinitiation of consultation if the actual take of the species (and, therefore, the effects on the species) are greater than anticipated and analyzed. See Bartel, 470 F. Supp. 2d at 1148 (discussing the role that an ITS plays as a trigger to reinitiate consultation). Allowing the Service to set a high take level without also ensuring that level will not jeopardize the species eviscerates both of these requirements. See Doc. 155 at 12 (Service's assertion that no jeopardy analysis is necessary because the take limit is an overestimate "would give Federal Defendants a large exemption from Section 9 liability under the ESA" and "would allow Federal Defendants to delay reinitiation of consultation"). As this Court concluded, "Federal Defendants must reckon with the Section 9 liability and reinitiation realities of a higher passage rate if they wish not to account rationally for a high take rate in their jeopardy analyses." Id.

Accordingly, the Service's failure to evaluate whether the pallid sturgeon will be jeopardized if 59 percent of the adults attempting to spawn in the Yellowstone above Intake Dam are precluded from doing so violates the ESA.

C. The Service Failed to Comply with ESA Standards for Evaluating Jeopardy

1. The Service Failed to Evaluate the Intake Project's Effects on the Pallid Sturgeon's Prospects for Recovery

The Service is required to evaluate how a proposed action will affect a listed species' chances for both survival and recovery. NWF I, 524 F.3d at 931 ("the jeopardy regulation requires [the Service] to consider both recovery and survival impacts"). Recovery is a more stringent jeopardy standard than survival. Wild Fish Conservancy, 628 F.3d at 527 ("[E]ven before a population is extinguished, it may reach a point at which it is no longer recoverable: 'a species can often cling to survival even when recovery is far out of reach.'") (quoting NWF I, 524 F.3d at 931).

As part of the jeopardy analysis, the Service must identify a benchmark—a "tipping point precluding recovery"—against which the Service can gauge the project's impacts. Wild Fish Conservancy, 628 F.3d at 527. See also NWF I, 524 F.3d at 936 (Service must "know roughly at what point survival and recovery will be placed at risk before it may conclude that no harm will result"); NWF v. NMFS 184 F. Supp. 3d 861, 892 (D. Or. 2016) (NWF II) (biological opinion is deficient where it "does not include any metric or goal that considers whether the incremental improvements to the currently low abundance levels are sufficient" to avoid jeopardy). While the best available science and the Service's judgment will

define the tipping point precluding recovery for a particular species, the Service must identify a benchmark—and measure the proposed action against it—to ensure its recovery analysis and conclusion accurately informs its biological opinion and advises the action agency on how to avoid jeopardy. NWF I, 524 F.3d at 933 (agency may not omit full analysis of recovery risks where "the highly precarious status of the listed [species] at issue raises a substantial possibility that considering recovery impacts could change the jeopardy analysis").

Here, the 2016 BiOp lacks any quantifiable "tipping point" metric against which to assess the Project's impacts on sturgeon recovery. As this Court summarized:

> The Court agrees with Plaintiff, the Ninth Circuit, and the District of Oregon in NWF II on this point. The ESA requires Federal Defendants to identify a measurable benchmark for recovery against which it could analyze impacts from the project. Federal Defendants failed to include any benchmark in their analysis.

Doc. 155 at 13. For example, the BiOp fails to identify either how many pallid sturgeon must swim upstream to spawn or how many larvae must survive the downstream drift to make recruitment possible. Nor does the Service indicate what level of recruitment is required to avoid jeopardy, or when such goals must be met to achieve recovery. Without these metrics, the Service could not—and did not—assess whether the Intake Project will produce river conditions that cross "the tipping point precluding recovery." Wild Fish Conservancy, 628 F.3d at 526–28.

The Service's failure to identify recovery benchmarks and apply them to the Intake Project violates the ESA.

2. The Service Applied an Unlawful Standard to Assess Jeopardy

Rather than appropriately analyzing the Intake Project's effects on the pallid sturgeon's prospects for both survival and recovery, the Service speculates that the Intake Project will be an "improvement" for the species over Reclamation's past and ongoing unlawful operations. See, e.g., NBOR0000062 ("[T]aken as a whole, the proposed action of creating fish passage and the opportunity for successful spawning and recruitment, represents a great potential for increasing reproduction, numbers and distribution of the wild pallid sturgeon in the action area."); NBOR0000064 ("[T]he project is likely to substantially improve the likelihood of survival and recovery of the species in the action area over the status quo."). However, "improvement" over an already-dire (and unlawful) status quo is the wrong standard for analyzing whether an action will jeopardize a species. As this Court noted in its preliminary injunction order, relying on Wild Fish Conservancy, "Federal Defendants must analyze whether the Project sufficiently will improve the pallid sturgeon's plight to give it a chance at survival and recovery." Doc. 155 at 16.[12]

[12] As explained below, the Service's "improvement" assertion also lacks support in the BiOp and the administrative record.

Specifically, the Service's "improvement" assertion fails to address the key legal question: whether the Intake Project, when measured against a recovery benchmark, will place pallid sturgeon survival and recovery at risk. See Wild Fish Conservancy, 628 F.3d at 527–28 (finding improvement from "no migratory bull trout spawning successfully" to "there may—possibly—be a very few" spawning trout was insufficient to support no-jeopardy conclusion); Aluminum Co. of Am. v. Adm'r Bonneville Power Admin., 175 F.3d 1156, 1162 n.6 (9th Cir. 1999) (agreeing with conclusion in a biological opinion that "[t]he regulatory definition of "jeopardy … does not mean that an action agency can 'stay the course' just because doing so has been shown slightly less harmful to the listed species than previous operations"); NWF II, 184 F. Supp. 3d at 888 (holding that "[a]n increasing population … does not necessarily equate to a 'no jeopardy' finding"); S. Yuba River Citizens League v. NMFS, 723 F. Supp. 2d 1247, 1267 (E.D. Cal. 2010) (finding biological opinion unlawful where agency concluded that the action will "partially reduce" impacts to listed fish without analyzing whether this reduction was sufficient to avoid causing jeopardy); Ctr. for Biological Diversity v. Provencio, 2012 WL 966031, at *12 (D. Ariz. Jan. 23, 2012) ("[E]ven if … the proposed action will, on net, improve the status of the leopard frog on the Allotment over time, this is not enough to demonstrate that the agencies considered the impact on recovery") (emphasis in original).

Instead, the Service's "improvement" prediction fails to answer many critical questions, including: what the Service means by "improvement;" how much "improvement" the Service anticipates; when the "improvement" will occur; and most importantly, whether the "improvement" will ensure that the sturgeon's recovery is not at risk. See NWF II, 184 F. Supp. 3d at 887 (finding "trending toward recovery" to be insufficient metric because it "does not require that any specific goals be met with respect to any of these factors"); Pac. Coast Fed'n, 606 F. Supp. 2d at 1177–78 (requiring biological opinion to evaluate jeopardy in context of existing and proposed project operations rather than solely focusing on the incremental effects of proposed project operations). Cf. NRDC v. Kempthorne, 506 F. Supp. 2d 322, 371 (E.D. Cal. 2007) (Service acted arbitrarily "by focusing only on how proposed operations will either increase or decrease [species] take" rather than comparing effects of the action to species' overall abundance).

The Service's application of the unlawful "improvement" assertion to reach its no-jeopardy conclusion for the pallid sturgeon is particularly inappropriate where, as here, the species "stands on the brink of extinction" and "the incremental improvements pale in comparison to the requirements for survival and recovery." Aluminum Co., 175 F.3d at 1162 n.6. Indeed, in NWF II, the court invalidated a jeopardy analysis in part because it did not "take into account whether populations remaining at significantly low abundance numbers, even though the populations

may be growing incrementally, appreciably diminish the likelihood of recovery." NWF II, 184 F. Supp. 3d at 888.[13]

Finally, the Service's "improvement" assertion fails to recognize that Reclamation's own illegal operations created the status quo—illegal operations that should have been addressed more than 25 years ago. See infra Argument, Section V. Allowing Reclamation to measure its proposed action against the damage done by its illegal operations would render the jeopardy backstop meaningless. See, e.g., NWF I, 524 F.3d at 930 (jeopardy analysis unlawful where it allows a "slow slide into oblivion" because that is "one of the very ills the ESA seeks to prevent"); Wild Fish Conservancy, 628 F.3d at 523 (criticizing biological opinion's five-year time frame because it could "mask the long-term impacts of [dam] operations," and allow the listed species to be "gradually destroyed") (citation omitted). The Service's failure to apply the correct legal standard in evaluating the Project's impacts on sturgeon survival and recovery violates the ESA.

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[13] One of the Service's recovery goals for the Upper Missouri River Basin is a self-sustaining, genetically diverse population of 5,000 adult sturgeon. NUSACE0019258 (2014 Recovery Plan). Had the Service conducted the requisite analysis here, it would have been forced to determine how this Project, which may allow as few as six wild fish to migrate upstream each year, would affect the sturgeon's chances of reaching this population goal. See NBOR0001916 (Service official suggesting the use of the recovery plan as the "measuring stick" to "compare the change resulting from the action").

D. The Service Fails to Support the Conclusion that the Project Will Improve the Survival and Recovery of the Pallid Sturgeon

Not only did the Service apply the wrong jeopardy standard, its overall conclusion that the Project is likely to "substantially improve the likelihood of survival and recovery," NBOR0000064, is based on unsupported (and unsupportable) assumptions and omissions in the BiOp and is contrary to the best available science. Pallid sturgeon survival and recovery in the wild are impossible without recruitment. Yet the Service failed to analyze three specific steps necessary for recruitment to occur: (1) adults must migrate upstream through the artificial bypass channel; (2) enough adults must migrate far enough upstream that they produce sufficient numbers of larvae with adequate drift distance to survive; and (3) a sufficiently large number of larvae must survive the drift downstream, thus potentially eliciting a population-level response. See generally NBOR0000050 (upstream migration of spawning adults is "first step in increasing the likelihood of recruitment in the Yellowstone River"). In the BiOp, the Service assumes, without scientific foundation, that the first step will occur. It fails to analyze the second step at all. And it evaluates the third step based on an arbitrary and illogical comparison to a different species of sturgeon.

1. The Service Fails to Support the Assumption that Upstream Migration Will Improve

The Project will permanently block pallid sturgeon passage in the mainstem of the Yellowstone River and in the existing natural side channel. Neither outcome will result in improvements in pallid sturgeon upstream migration. Nonetheless, the Service asserts that upstream migration will occur because of the new artificial bypass channel, which will purportedly create "annual opportunities for passage and spawning" upstream of the Dam. NBOR0000062.

Yet the BiOp and the record demonstrate that it is unknown whether any adult pallid sturgeon will use the artificial channel to pass upstream. NBOR0000053 (BiOp noting that "it is impossible to prove whether fish will or will not, use the new bypass channel"); NUSACE0008174 (Upper Basin Pallid Sturgeon Workgroup commenting on Draft EIS that "the improvement of fish passage for Pallid Sturgeon and other native fishes under the preferred Bypass Channel Alternative is purely theoretical and assurances for successful passage are unfounded"); NBOR0012382 (Montana Chapter of the American Fisheries Society commenting on EIS that the "artificial channel … may or may not support passage by Pallid Sturgeon"). While sturgeon certainly use natural side channels, as demonstrated in 2014 and 2015 around Intake Dam, whether and how often they will use an artificial channel are entirely unknown. Indeed, a 2015 study specifically examining pallid sturgeon migration patterns in the Yellowstone River

concluded that they do not use natural side channels in a discernably consistent manner. NBOR0002740–49. The study concluded that a "by-pass channel might be used by some but not all individuals" and emphasized the uncertainties in predicting whether sturgeon would use the artificial bypass channel. NBOR0002747 (emphasis added). In the face of this uncertainty and lack of evidence that pallid sturgeon will migrate upstream through the artificial bypass channel, the BiOp's conclusion that upstream migration will improve has no rational connection with its factual findings. See Pac. Coast Fed'n of Fishermen's Ass'ns v. Bureau of Reclamation, 426 F.3d 1082, 1091 (9th Cir. 2005) (in a biological opinion, "[t]he agency is obligated to 'articulate[] a rational connection between the facts found and the choices made'") (alteration in original) (citation omitted).

2. The Service Fails to Evaluate the Likelihood of Sufficient Spawning in Upstream Locations that Could Provide for Recruitment

Even assuming some adult sturgeon will use the artificial channel, the BiOp does not analyze whether enough will spawn at the right locations upstream of the Dam to make larval survival possible. The Service fails to analyze how many adults need to swim upstream to produce sufficient numbers of larvae for a population-level response. The Service also fails to analyze whether those fish are likely to migrate far enough upstream that their larvae will have adequate drift

distance. Indeed, an expert peer review panel evaluating the Draft EIS expressed concern about whether the Project would result in a measurable population-level response. NBOR0020547 ("There is substantial risk that the preferred alternative bypass channel will not provide upstream passage of pallid sturgeon in significant numbers to facilitate a measurable, population-level response in natural recruitment."). By failing to analyze the likelihood that adults will spawn in sufficient numbers in locations to enable potential recruitment, the Service arbitrarily failed to consider an essential element of the jeopardy analysis. Without this analysis, the Service's conclusion that the Project is likely to improve sturgeon survival and recovery is unfounded. See Ctr. for Biological Diversity v. BLM, 698 F.3d 1101, 1124 (9th Cir. 2016) (rejecting BiOp for failing to consider a "'relevant factor' to determining whether the Project would result in jeopardy") (citation omitted).

3. The Service's Analysis of Larval Survival During the Downstream Drift Relies on an Arbitrary Comparison to Shovelnose Sturgeon

The Service's prediction that the impacts on pallid sturgeon larvae drifting through the Project will not harm the population, NBOR0000056–58, is also unsupported and contrary to record evidence. The Service stated that it was unable to estimate the number of larvae that will be affected. NBOR0000056. Although it lacked relevant information to address this critical part of the jeopardy analysis,

the Service nevertheless concluded the effects on larvae would be minimal based on a comparison to the shovelnose sturgeon population in the Yellowstone, a population that is "abundant" there. NBOR0000057.[14] The Service predicted that because the existing dam has not caused a "negative population response" in shovelnose sturgeon, the new Project will not cause a negative population response in pallid sturgeon. Id. The Service supported this prediction with three assumptions: (1) that the "life history, reproduction strategy, and free embryo drift characteristics of shovelnose sturgeon are more similar to those of the pallid sturgeon than any other species" in the area; (2) that the shovelnose sturgeon population upstream of Intake Dam is "relatively stable and self-sustaining"; and (3) that the existing dam "presents [a] greater hazard than will exist after" the Project has been constructed. Id.

The Service's prediction is both illogical and contrary to the best available science. First, the BiOp fails to describe the differences between the two species

[14] Unrelated to the comparison to shovelnose sturgeon, the Service also relied on the puzzling premise that "[f]ree embryos passing over [the] replacement weir, which is designed for smooth flow, will be less likely to be injured than if they had to pass over the current weir/rock structure." NBOR0000052 (emphasis added). However, the existing structure—including the accumulated rock field below it—will remain in place even after the construction of the new dam. NBOR0014521. As a result, whether larval mortalities are "less likely" to occur at the new dam than at the existing dam is irrelevant: mortalities could potentially occur at both. The relevant question is the cumulative number of mortalities that these two structures and the boulder field will cause, and whether those mortalities will impede survival or recovery of the species.

that have led to one—shovelnose sturgeon—being relatively stable, while the other—pallid sturgeon—has been nearly extirpated. Absent this basic information, the Service cannot credibly support its assumption that a new dam will have similar effects on the two different sturgeon species, even though the existing dam has very different effects. Cf. Gifford Pinchot, 378 F.3d 1066 (approving use of a habitat measurement as a proxy to predict jeopardy to a species because it "reasonably ensure[d]" that the chosen metric "mirror[s] reality").

Moreover, the best available science indicates that shovelnose sturgeon are likely not a good stand-in for pallid sturgeon, due to significant biological and behavioral differences. See NBOR005820 (interagency study concluding that "[d]espite their substantial commonalities pallid sturgeon and shovelnose sturgeon each possess dissimilar biological and ecological traits that … ultimately explain disparities among the conservation status of the co-occurring species"); NBOR0005830 ("Although these species provided a starting point for understanding, their informational value is now perceived as limited because of differences in known behaviors ….").

Relevant to the Intake Project, a critical difference is the requisite drift distance for each species' larvae: shovelnose sturgeon larvae require only 58–155 miles (94–250 km) of river habitat for their downstream drift, NUSACE0024394, while pallid sturgeon require approximately 150–330 miles, NUSACE0019216.

See NUSACE0024394 ("Differences in larval drift dynamics between species provide a possible explanation for differences in recruitment between shovelnose sturgeon and pallid sturgeon in the upper Missouri River."). The drift distance for shovelnose sturgeon larvae is short enough that, depending on where adult shovelnose spawn upstream of Intake Dam, their larvae may not drift into the Project site at all. For example, two known locations for shovelnose spawning above Intake Dam are in the Tongue and Powder River areas. FWS-11940–41. These tributaries are approximately 80 and 105 miles above the Dam, respectively, well above the minimum drift distance for shovelnose larvae. Shovelnose larvae drift distance is also short enough that adults could spawn at certain locations below Intake Dam without their larvae drifting into Lake Sakakawea. Thus, as an extreme example, shovelnose sturgeon larvae could potentially suffer 100 percent mortality at the Project site without substantially affecting the population overall because shovelnose can spawn in multiple locations, enabling larval survival without ever drifting through the Project site. In contrast, no matter how far pallid sturgeon migrate upstream of the Project, their larvae are nearly assured of drifting through the hazards of the site. And, if 100 percent of pallid sturgeon larvae die at the Project site, the wild population will be extirpated. Accordingly, the Service arbitrarily concluded that pallid larval mortality will not cause a negative population-level response based on a comparison to shovelnose sturgeon larvae.

E. The Service Unlawfully Failed to Evaluate the Project's Short-Term Impacts

The Ninth Circuit has repeatedly rejected biological opinions that ignore short-term impacts to a species on the assumption that the long-term impacts will be beneficial, particularly when the species may not survive to reap the long-term benefits of the project. NWF I, 524 F.3d at 934–35 (holding a biological opinion unlawful where it failed to consider the impacts of the project in the context of the species' short life cycles); Pac. Coast Fed'n, 426 F.3d at 1094–95 (rejecting RPA that would not provide sufficient flows for coho salmon until year nine, after five generational cycles); Pac. Coast Fed'n of Fishermen's Ass'ns v. NMFS, 265 F.3d 1028, 1037–38 (9th Cir. 2001) ("Given the importance of the near-term period on listed species survival it is difficult to justify [the National Marine Fisheries Service's (NMFS)] choice not to assess degradation over a time frame that takes into account the actual behavior of the species in danger."). See Pac. Coast Fed'n, 606 F. Supp. 2d at 1175 ("[W]here, as here, NMFS has reviewed but not analyzed the effects on life-cycles and population dynamics of the species, the BiOp fails to comply with the law."). "An agency does not avoid the likelihood of jeopardy to a listed species when it disregards the life cycle of the species in crafting the measures designed to protect it." Pac. Coast Fed'n, 426 F.3d at 1094.

Here, the Service conceded that during construction of the Project, no upstream passage will occur because the Agencies intend to fill the natural side

channel immediately, but the artificial bypass channel will not be ready until the end of construction in an estimated two to three years. NBOR0000062. Nonetheless, the Service concluded that these short-term impacts would not jeopardize the sturgeon due to: (1) "the long lived nature of the sturgeon," (2) the sturgeon's "reproduction strategy;" and (3) "the thousands of augmentation fish now reaching potential spawning age." Id.

This rationale is unsupported. First, the Service's reliance on the long lifespan of pallid sturgeon is arbitrary because the few remaining wild sturgeon are nearing the end of that lifespan and were predicted to be extirpated by 2018. The Service makes no attempt to explain how two to three years without any passage—and no opportunity for natural reproduction—will affect a wild population that is down to 125 very old fish at best. See Pac. Coast Fed'n, 606 F. Supp. 2d at 1174 (biological opinion must "analyze proposed project impacts on these species in relation to their actual life expectancy").

The Service indicates, in a single sentence, that some adults may be relocated above the Dam, as part of the monitoring program during construction. NBOR0000071. The Service does not suggest how many or where adults would be relocated, nor whether they are likely to successfully spawn. Even if these adults did successfully spawn, the Service does not suggest that larvae would survive the drift through a construction zone. See id.

Second, the Service fails to explain how the sturgeon's reproductive strategy, which evolved to allow "very high mortality of eggs and early life forms without detriment at a population level," NBOR0000056, will somehow compensate for the loss of all opportunities to naturally reproduce during the next two to three years, in light of the wild population's small size and old age.

Third, the assumption that hatchery-raised fish will compensate for these short-term impacts is also unsupported. Federal Defendants acknowledge there is no evidence that hatchery-raised fish can or will successfully reproduce—with or without ideal conditions. NBOR0000023 (stating that hatchery fish "are now reaching reproductive age, but no reproduction has been observed yet"); NBOR0014950 (EIS noting that "[b]ecause the stocked juveniles were not imprinted to spawning-reach water, they may lack homing behavior to a natal site" and the "spawning reaches selected may not be the same as used by wild adults").[15]

[15] The BiOp further dismisses any consideration of short-term impacts by concluding they do not change the current reproduction, numbers, or distribution of the species. NBOR0000058. As described above, a comparison to ongoing, illegal operations is not the proper standard. Supra Argument, Section I.C.2. Further, the construction phase will be even more damaging than the so-called "status quo" because the natural channel will be filled.

F. The Service Violated ESA Standards in Issuing the 2016 Incidental Take Statement

1. The Service Relied on a Surrogate that is Not Rationally "Linked to the Take" of Larval Sturgeon

If the Intake Project is constructed, and if pallid sturgeon spawn upstream of the new dam, larvae may be killed or injured when passing over the dam and through the boulder field downstream. NBOR0000067. They are also likely to be killed if they come into contact with the fish screens for the irrigation canal. Id.; NBOR0000047. But the Service did not attempt to quantify the extent of these losses. The agency explained that "[c]alculating the exact number of free embryos taken by an action in the future is extremely difficult and even speculative." NBOR0000068.

In lieu of attempting to quantify the "magnitude or scale of loss" with a numerical cap, the Service relied on the shovelnose sturgeon as a surrogate to measure these impacts. NBOR0000068–69. Specifically, the Service concluded that if roughly the same proportion of pallid sturgeon larvae and shovelnose sturgeon larvae are found to be killed or injured at the monitoring sites near the Project, the take will be deemed permissible. NBOR0000069. Thus, if shovelnose and pallid sturgeon both suffer a "similar" level of larval mortality—whether that level is zero percent or 100 percent or somewhere in between—the take limit will

not be exceeded. This is an unlawful and arbitrary take surrogate for several reasons.[16]

First, the Service failed to "set[] a clear standard for determining when the level of take has been exceeded," 50 C.F.R. § 402.14(i)(1)(i), and to establish an upper take limit that, if exceeded, would trigger reconsultation, as required by Allen, 476 F.3d at 1038–41. If shovelnose sturgeon and pallid sturgeon larvae both suffer 100 percent mortality at the Project, the wild population of pallid sturgeon will be extirpated, but the take limit will not have been exceeded. Extirpation is not a meaningful trigger for reconsultation; the point of reconsultation is to avoid jeopardizing the species before it is too late. See Ctr. for Biological Diversity, 2012 WL 966031, at *15 (rejecting a take limit as "toothless" because it "amounts to a trigger based on extirpation of [all] leopard frogs from the entire [grazing] allotment"). By relying on this surrogate, the Service has potentially "foreclosed any meaningful check on its own no-jeopardy determination" in violation of the ESA. Id.

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[16] The monitoring plan for sampling shovelnose and pallid sturgeon mortality may also be inadequate. It is not clear whether the Service requires monitoring to occur below the existing dam and rock field or simply between the existing dam and new dam. If monitoring only occurs between the two dams, the monitoring will not detect mortalities caused by the existing dam and boulder field. See NBOR0000070 (monitoring plan); 50 C.F.R. § 402.14(i)(3); Wild Fish Conservancy, 628 F.3d at 531–32 (Service must provide an adequate monitoring plan).

Second, courts have rejected the use of surrogates where, as here, they do not accurately measure the effect of the incidental take. See Ctr. for Biological Diversity v. NMFS, 977 F. Supp. 2d 55, 89–91 (D.P.R. 2013) (rejecting the use of the harvest weight of all herbivorous fish as a surrogate for take of threatened coral species because different fish species and different size fish have different impacts on the coral species); Grand Canyon Trust v. U.S. Bureau of Reclamation, 2010 WL 2643537, at *22–23 (D. Ariz. June 29, 2010) (rejecting the use of adult humpback chub as surrogate for take of juvenile humpback chub because the juveniles were expected to be taken in far greater numbers).

Using shovelnose sturgeon as a surrogate cannot accurately measure the effects of incidental take on pallid sturgeon larvae, because the same mortality or injury rates may have profoundly different effects on the two populations' survival and recovery prospects. See supra Argument, Section I.D.3. For example, because the two species have different drift distances, not all shovelnose sturgeon larvae will necessarily come into contact with the Project site—but nearly all pallid sturgeon larvae that are hatched above the dam will. Moreover, the two species have vastly different population sizes. Consequently, losing a similar percentage of shovelnose sturgeon larvae at the Project site may not have the same dramatic impacts that it will on the pallid sturgeon population. See NBOR0005820 (independent study noting that the unique traits of pallid sturgeon include "slow

population responses to management actions and result in a tendency for the species to be resistant to recovery at very low densities"). Given these significant biological differences, shovelnose sturgeon may be able to withstand a high larval mortality rate from the Project that pallid sturgeon cannot. See id. (describing differences between shovelnose sturgeon and pallid sturgeon that make pallid sturgeon more vulnerable to various threats). The Service entirely failed to address these and other differences in establishing shovelnose larvae as a surrogate for pallid larvae. As a result, the BiOp failed to rationally explain the "causal link" between the two populations that would justify designating shovelnose sturgeon as a take surrogate. See Wild Fish Conservancy, 628 F.3d at 531–32; 50 C.F.R. § 402.14(i)(1)(i).

2. The 2016 ITS Unlawfully Allows Take of All Adult Sturgeon During Construction

The Service also violated the ESA by permitting take, through impairment of breeding, for all adult sturgeon attempting to migrate upstream during construction. If construction on the Project is allowed to begin, the natural side channel will be immediately filled. NBOR0000062. As a result, all adult sturgeon approaching the Dam will be taken because they will not have a viable route upstream that will allow them to reach spawning habitat in locations that could provide enough drift distance for their larvae to survive. NBOR0000066. Although the Service provided for a relocation effort to some unknown extent,

NBOR0000071, nothing in the ITS suggests that this effort will diminish the number of adults likely to be taken through impairment of breeding, and the Service authorized all adults to be taken in any event. Accordingly, the Service violated the ESA by failing to establish a take limit for adults during construction that would provide a meaningful trigger for reconsultation. See 50 C.F.R. § 402.14(i)(5); Allen, 476 F.3d at 1038.

II. RECLAMATION AND THE CORPS' RELIANCE ON THE 2016 BIOLOGICAL OPINION VIOLATES THE ESA

Reclamation and the Corps have an independent duty pursuant to section 7(a)(2) to ensure that their actions are not likely to jeopardize the pallid sturgeon. As the Ninth Circuit has explained:

> [W]hile consultation with the FWS may have satisfied the Navy's procedural obligations under the ESA, the Navy may not rely solely on a FWS biological opinion to establish conclusively its compliance with its substantive obligations under section 7(a)(2)…. A federal agency cannot abrogate its responsibility to ensure that its actions will not jeopardize a listed species; its decision to rely on a FWS biological opinion must not have been arbitrary or capricious.

Pyramid Lake Paiute Tribe v. U.S. Dep't of the Navy, 898 F.2d 1410, 1415 (9th Cir. 1990) (citations omitted). See also Aluminum Co., 175 F.3d at 1161 ("[A]n action agency may not escape its responsibility under the [ESA] by simply rubber stamping the consulting agency's analysis.").

Agencies may not rely on biological opinions that are "legally flawed" or that "fail[] to discuss information that would undercut the opinion's conclusions."

Ctr. for Biological Diversity, 698 F.3d at 1127–28 (citing Wild Fish Conservancy, 628 F.3d at 532 and Defenders of Wildlife v. EPA, 420 F.3d 946, 976 (9th Cir. 2005), rev'd on other grounds, Nat'l Ass'n of Home Builders, 551 U.S. 644). Here, the 2016 BiOp is legally flawed in several respects: as described above, the BiOp failed to analyze whether the pallid sturgeon could withstand the authorized take, failed to conduct the requisite recovery analysis, failed to draw a rational connection between the findings in the BiOp and its no-jeopardy conclusion, and failed to adequately evaluate short-term impacts. Moreover, after years of developing this project together, the Agencies were well aware of the deficiencies in the analyses and well aware that independent biologists have repeatedly raised significant concerns about the Project's ability to provide for pallid sturgeon survival and recovery. The Corps' and Reclamation's reliance on the 2016 BiOp is arbitrary and violates ESA section 7(a)(2). Defenders is entitled to summary judgment on Claim 13.

III. THE AGENCIES VIOLATED NEPA BY FAILING TO UNDERTAKE A MEANINGFUL ALTERNATIVES ANALYSIS

NEPA's goal is twofold. First, it requires federal agencies to take a "hard look" at the environmental impacts of their proposed actions. Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 350 (1989). Through this review, NEPA ensures agency action is the result of informed decisionmaking. Marsh v. ONRC, 490 U.S. 360, 371 (1989) ("By so focusing agency attention, NEPA ensures that the

agency will not act on incomplete information, only to regret its decision after it is too late to correct.") (citation omitted). Second, NEPA mandates agency transparency by providing a mechanism for the public to learn about and comment on the impacts of a proposed action. Id. ("[T]he broad dissemination of information mandated by NEPA permits the public and other government agencies to react to the effects of a proposed action at a meaningful time.") (citation omitted); 40 C.F.R. § 1500.1(b) ("public scrutiny" is "essential to implementing NEPA"); id. § 1506.6(a) (requiring agencies to "[m]ake diligent efforts to involve the public in preparing and implementing their NEPA procedures").

To achieve these twin goals, NEPA requires that federal agencies circulate for public comment a detailed EIS for all "major Federal actions significantly affecting the quality of the human environment." 42 U.S.C. § 4332(2)(C). See 40 C.F.R. § 1508.11. An EIS must "[r]igorously explore and objectively evaluate all reasonable alternatives" to the proposed action. 40 C.F.R. § 1502.14 (alternatives analysis is the "heart of the [EIS]"). This analysis must "present the environmental impacts of the proposal and the alternatives in comparative form, thus … providing a clear basis for choice among options." 50 C.F.R. § 1502.14. See Ctr. for Biological Diversity v. U.S. Dep't of Interior, 623 F.3d 633, 645 (9th Cir. 2010) (CBD) ("It is black letter law that NEPA requires a comparative analysis of the environmental consequences of the alternatives before the agency.").

By requiring a clear comparative analysis, NEPA ensures that agencies achieve both statutory goals: to take a "hard look" at the environmental effects of their actions and to facilitate meaningful public participation. CBD, 623 F.3d at 646. See also ONDA, 625 F.3d 1092, 1121 n.24 (9th Cir. 2010) ("Clarity is at a premium in NEPA because the statute … is a democratic decisionmaking tool…."). NEPA requires that agencies candidly acknowledge the truth. N.C. Wildlife Fed'n v. N.C. DOT, 677 F.3d 596, 603, 605 (4th Cir. 2012) (finding NEPA violation where agencies "provided the public with erroneous information" and failed to "make a candid acknowledgment of what they knew to be the truth") (quotation marks and citation omitted).

Defenders is entitled to summary judgment on Claim 11 because the Agencies failed to present a clear, meaningful, and candid comparison between the environmental consequences of the Bypass Channel and the Multiple Pump Alternatives, violating their NEPA obligation to ensure public awareness. As this Court concluded in its preliminary injunction ruling, the Agencies unlawfully equated the differing environmental impacts of these alternatives with respect to their probabilities of successfully passing adult fish upstream, despite the Agencies' own analysis to the contrary. Doc. 155 at 21–25. Because the Agencies violated a fundamental purpose of NEPA's procedures—to ensure agency clarity and transparency during the public process, ONDA, 625 F.3d at 1121 n.24.

This Court previously relied on the Ninth Circuit's decision in CBD, 623 F.3d at 645, and concluded that Defenders is likely to prevail on the merits of its NEPA claim because the EIS obfuscated the differences between the impacts of the Multiple Pump and the Bypass Channel Alternatives. Doc. 155 at 23–25 (finding that the EIS "equates environmental impacts across the multiple pump alternative and the bypass alternative," even though the EIS' metric for adult upstream fish passage—the "Fish Passage Connectivity Index" or "FPCI"—demonstrated that the alternatives do not have equivalent impacts).

Here, as in CBD, the EIS offers summary conclusions about the probability of successful upstream adult fish passage that are contradicted by the Agencies' own analyses. For example, as the Court highlighted in its preliminary injunction order, the EIS presents a summary table, Table 2-39, that "reflects all impacts from each alternative and proves easy to read and comprehend," but offers qualitative descriptions that are "a confusing summary at best, and a pointed concealment at worst." Doc. 155 at 23 (citing Doc. 104-1 at 198).[17] Specifically, addressing "ESA Success," Table 2-39 states that the Bypass Channel Alternative "meets FWS Criteria and has high potential to pass fish" while stating only "open river" for the Multiple Pump Alternative. NBOR0014588. See also NBOR0014951–52 (Table

[17] In the record filed November 22, 2017, Doc. 169, the cited table appears at NBOR0014588.

4-26 summarizing potential effects on listed species and concluding that, for operational effects, both alternatives have identical "major beneficial effect of improved fish passage for pallid sturgeon"). Compare NBOR0014986 (Bypass Channel Alternative provides "a high likelihood of fish encountering [the] passageway"), with NBOR0014996 (Multiple Pump Alternative provides "unhindered passage"); compare NBOR0014451 ("it is reasonable to assume that a majority of fish would find and use the [bypass] channel"), with NBOR0014996 ("It is fairly reasonable to assume that a majority of pallid sturgeon would actually pass upstream with Intake Diversion Dam removed."). Further, the EIS asserts that "[t]here is equal uncertainty about recruitment and recovery of pallid sturgeon under all alternatives." NBOR0014443.

The Court rejected the Agencies' reliance on the FPCI to demonstrate the requisite meaningful comparison of alternatives. Doc. 155 at 22–25. The Court noted that the FPCI consists of a "controversial methodology … appear[ing] only in an appendix that most members of the public probably would find confusing to read." Id. at 24 (citing NUSACE0006450).[18] To the extent the methodology is discernable, the FPCI concludes that the Multiple Pump Alternative, with a maximum score of 1.0, has the highest potential of passing adult fish upstream, as

[18] In the record filed November 22, 2017, Doc. 169, the cited appendix begins at NBOR0018735.

compared to the Bypass Channel Alternative, which has only two-thirds of that potential with a score of 0.67. See NBOR0014581 (EIS Table 2-35); NBOR0018757 (EIS Appendix D Table 1.13). The difference between the two alternatives becomes more apparent when the Agencies rescore the FPCI to consider only pallid sturgeon: Bypass Channel then scores 0.5, or one-half the Multiple Pump's potential to allow sturgeon to migrate upstream. See NBOR0018766-67 (Table. 2.7, "Sensitivity Scenario 2 – Pallid Sturgeon Only, Cost Effectiveness").

But as the Court pointed out, "[t]he EIS interpreted these results … in a way that roughly equated the fish passage prospects between the two alternatives." Doc. 155 at 24. Therefore, as the Court noted, "[a] member of the public who read the narrative evaluations of fish passage prospects would consider both alternatives to present similarly high chances of success"—a conclusion that is not borne out by the FPCI. Id. Because the EIS obfuscates the meaningful distinctions between alternatives regarding the probability of successful upstream adult fish passage, despite the Agencies' own acknowledgment of significant differences, the Agencies violated NEPA and Defenders is entitled to judgment on Claim 11.

IV. THE CORPS' CWA ANALYSIS UNLAWFULLY FOUND THAT THE BYPASS CHANNEL IS THE LEAST ENVIRONMENTALLY DAMAGING PRACTICABLE ALTERNATIVE

Section 404 of the CWA prohibits the Corps from authorizing the discharge of dredged or fill material into waters of the United States unless the discharge meets the substantive standards of the statute, 33 U.S.C. § 1344, the implementing regulations, 33 C.F.R. Parts 335–336, the public interest balancing test, 33 C.F.R. § 320.2(f), and the 404(b)(1) Guidelines, 40 C.F.R. Part 230. The Guidelines specifically prohibit the Corps from authorizing its own such discharges unless it finds that there is no "practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences." 40 C.F.R. § 230.10(a). See Utahns For Better Transp. v. DOT, 305 F.3d 1152, 1186–87 (10th Cir. 2002) (Corps must select least damaging alternative unless it is proven to be impracticable); Alliance to Save the Mattaponi v. Army Corps of Eng'rs, 606 F. Supp. 2d 121, 128 (D.D.C. 2009).

Practicable alternatives are "available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes." 40 C.F.R. § 230.10(a)(2). To compare the impacts of practicable alternatives, the Corps must analyze specific categories of aquatic ecosystem impacts, including impacts to ESA-listed species. Id. § 230.11 (Corps must

determine effects of discharge "in light of [40 C.F.R. Part 230] subparts C through F"). See also Towns of Norfolk and Walpole v. Army Corps of Eng'rs, 772 F. Supp. 680, 685 (D. Mass. 1991) ("[T]he alternatives analysis is limited to comparison of effects on the aquatic ecosystem"). The Corps must "adequately explain" on the record before it "why there is no less-damaging practicable alternative" to the one it selects. Mattaponi, 606 F. Supp. 2d at 130.

Defenders is entitled to summary judgment on Claim 14 because the Corps' CWA Analysis of the Project's aquatic ecosystem impacts applied the wrong standard under 40 C.F.R. § 230.10(a). Rather than comparing practicable alternatives such as the Bypass Channel and Multiple Pump Alternatives to select the one with the least-damaging impacts to the aquatic ecosystem, the Corps arbitrarily assumed that the Bypass Channel "has a similar scale of environmental impacts as the other alternatives." NBOR0018659 (EIS Appendix C, Section 404(b)(1) Analysis). Because it then limited its impacts analysis to the Bypass Channel, the Corps entirely failed to compare the Bypass Channel and Multiple Pump Alternatives (or any other alternatives) to determine their relative impacts on aquatic biological characteristics, including pallid sturgeon, as required by 40 C.F.R. Part 230 subpart D. See NBOR0018677–96.

The Agencies' only comparative measurement in the EIS is the FPCI, which reinforces the scientific consensus in the record that the Multiple Pump Alternative

will have a far more beneficial impact on aquatic biological characteristics—including pallid sturgeon—by restoring a free-flowing, natural Yellowstone River and greatly increasing the chances of fish passage and recovery success as compared to the Bypass Channel. See supra Argument Section III. Thus, as this Court determined, the Multiple Pump Alternative "represents the least environmentally-damaging alternative by Federal Defendants' own measure." Doc. 155 at 28 (citing Doc 104-3 at 269, 278–79).[19] Accordingly, the CWA required the Corps to prove that the Multiple Pump Alternative is impracticable or else disapprove the Project. 40 C.F.R. § 230.10(a); Utahns, 305 F.3d at 1187.

The Corps did not conduct this required analysis. Rather, it compared the practicability of the Bypass Channel Alternative to the Multiple Pump Alternative, NBOR0024757–59, concluding that the Bypass Channel Alternative is more practicable than the Multiple Pump Alternative. NBOR0018719 ("The proposed Bypass Channel Alternative is the most cost effective alternative…. [and] was determined to be the most practicable alternative considering cost, existing technology, and construction feasibility in light of the overall project purpose and need."). Yet as this Court held, the relevant CWA standard does not inquire into the relative practicalities of alternatives. Doc. 155 at 26–28. See also Del.

[19] In the record filed November 22, 2017, Doc. 169, the cited passages appear at NBOR0014986, NBOR0014995–96.

Riverkeeper Network v. Army Corps of Eng'rs, 869 F.3d 148, 159–60 (3d Cir. 2017) ("[T]he fact that an alternative might have some unquantified higher operating cost does not mean that the alternative is not 'available' or 'capable of being done.'") (quoting 40 C.F.R. § 230.10(a)(2)); Friends of the Earth v. Hall, 693 F. Supp. 904, 947 (W.D. Wash. 1988) ("[S]ignificant additional cost can prove determinative, in and of itself, only if the competing alternatives can reasonably be viewed as equivalent with respect to other factors."). Indeed, the Corps may not rule out an alternative as impracticable merely because it is more expensive or more difficult. Guidelines for Specification of Disposal Sites for Dredged or Fill Material, 45 Fed. Reg. 85,336, 85,339 (Dec. 24, 1980).

In Utahns, the Tenth Circuit explicitly rejected the Corps' selection of an alternative that it claimed would cost less and facilitate future development as compared to an alternative with fewer environmental impacts. "The CWA test is not … whether features of a proposal would make a more desirable project." Utahns, 305 F.3d at 1188. Rather, the Corps is "obligated to determine the feasibility of the least environmentally damaging alternatives that serve the basic project purpose." Id. at 1189. The Corps' determination that the Bypass Channel is more practicable rather than that the Multiple Pump Alternative is impracticable must similarly be rejected here.

Nor may the Corps argue that it made an explicit and legally adequate determination that the Multiple Pump Alternative is impracticable. As this Court found, the Corps fell "short of this determination ... when [it] stated that all alternatives 'were found to be potentially practicable.'" Doc. 155 at 28 (quoting NUSACE0006650).[20] In the EIS Alternatives Analysis subsection 2.4.4, "Cost-Effectiveness," the Corps stated that "the [Multiple Pump] alternative would remain cost effective and a best buy plan." NBOR0014586. See also NBOR0014584 (characterizing Multiple Pump Alternative as "cost effective plan"). Although the Corps expressed concerns about the Multiple Pump Alternative's practicability, NBOR0018719, these did not constitute an affirmative finding that the Multiple Pump Alternative is actually impracticable. Having concerns about practicability is not the relevant legal test under the CWA. See Mattaponi, 606 F. Supp. 2d at 130 (rejecting decision based on the Corps' "assertions that other alternatives may not meet needs and could be more damaging"). Because the Corps did not prove that the least damaging alternative—the Multiple Pump Alternative—was impracticable, it violated the

[20] In the record filed November 22, 2017, Doc. 169, the cited passage appears at NBOR0018726.

CWA in approving the Bypass Channel Alternative.[21] Defenders is entitled to summary judgment on Claim 14.

V. RECLAMATION'S ONGOING OPERATION OF INTAKE DAM VIOLATES ESA SECTIONS 7 AND 9

As described above, Reclamation and the Corps originally conceived of the Intake Project as a means of addressing Reclamation's ongoing ESA violations at Intake Dam. But the Intake Project violates three federal statutes and cannot lawfully be implemented. However, Reclamation cannot simply continue its ongoing operations because these operations violate ESA sections 7 and 9. Defenders is entitled to summary judgment on Claims 4 and 5.

Reclamation's ongoing operation of Intake Dam violates its independent, substantive duty under ESA section 7 to ensure that its actions do not jeopardize listed species. 16 U.S.C. § 1536(a)(2); 50 C.F.R. § 402.15(a); supra Argument,

[21] The Corps' section 404 authorization also violated the Guidelines' prohibition against permitting any discharge that jeopardizes an endangered species. 40 C.F.R. §230.10(b)(3). As described supra Argument, Section II, the Corps may not rely on an arbitrary BiOp to fulfill its substantive duty to avoid jeopardy. Therefore, the Corps acted arbitrarily in relying on the 2016 BiOp to meet its CWA-imposed duty to deny authorization for the Project's discharge under 40 C.F.R. § 230.10(b)(3).

Section II.[22] The evidence—accumulated over more than two decades—is undisputed that Intake Dam operations prevent pallid sturgeon from successfully reproducing in the Yellowstone River. Specifically, Reclamation's Intake Dam operations block nearly all pallid sturgeon from reaching spawning habitat upstream of the Dam, forcing them to turn downstream and spawn within twenty miles of the confluence with the Missouri River, where any resulting larvae will drift into Lake Sakakawea and die. NBOR000024. Reclamation does not have a valid biological opinion from the Service addressing its ongoing operation of the Dam.[23] Accordingly, Reclamation is failing to ensure that its Intake Dam operations do not "appreciably reduc[e] the reproduction, numbers, [and] distribution" of the species, 50 C.F.R. § 402.02, in violation of the ESA's jeopardy prohibition. Defenders is entitled to judgment on Claim 4.

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[22] Federal Defendants have previously stated that the underwater weir, which was constructed in 1909, is not subject to the ESA. However, as the Service and Reclamation have acknowledged through their more than two decades of fitful, incomplete consultations, Reclamation's operations at Intake, including the rocking, are an "agency action" that "may affect" the pallid sturgeon and are therefore subject to the ESA. See 16 U.S.C. § 1536(a)(2); 50 C.F.R. § 402.02 (definitions). The weir alone is not functional for its irrigation purpose; the rocking is necessary to raise the water levels sufficiently for gravity diversions. See supra Statement of Facts, Section II.

[23] The 2016 BiOp only addressed ongoing operations in the context of the Project—which assumed that the impacts would last two to three more years and that the natural side channel would be filled in immediately. See supra Argument, Section I.D.

By preventing pallid sturgeon from breeding upstream of Intake, Reclamation is also taking pallid sturgeon through its ongoing operation of Intake Dam without a valid ITS. This constitutes a violation of ESA section 9(a)(1)(B), 16 U.S.C. § 1538(a)(1)(B). Because Reclamation does not have a valid biological opinion addressing the impacts of its ongoing operations, it also does not have a valid ITS that would permit this take. Accordingly, the ongoing take is unpermitted and unlawful. Defenders is entitled to judgment on Claim 5.

VI. THE CORPS' OPERATION OF FORT PECK DAM VIOLATES THE ESA

Because the Corps has never brought its ongoing operations of Fort Peck Dam into compliance with the RPA to jeopardy prescribed in the 2003 BiOp, it is in violation of both its substantive duty under ESA section 7(a)(2) to ensure against jeopardy and the ESA section 9 prohibition against unpermitted incidental take. Defenders is entitled to summary judgment on Claims 1 and 2.

A. By Failing to Implement the 2003 Biological Opinion's Reasonable and Prudent Alternatives, the Corps Has Failed to Ensure Against Jeopardy in Violation of ESA Section 7(a)(2)

Where the Service has issued a jeopardy BiOp and accompanying RPA, the RPA provides the means for the action agency to comply with its substantive section 7 duty to avoid jeopardizing a listed species. An action agency that deviates from an RPA "does so subject to the risk that [it] has not satisfied the standard of section 7(a)(2)." Village of False Pass v. Watt, 565 F. Supp. 1123,

1160–61 (D. Alaska 1983), aff'd, 733 F.2d 605 (9th Cir. 1984) (citation omitted). In an analogous situation, the Ninth Circuit held that the Corps violated its section 7 substantive duty by proceeding with construction of a highway project without first acquiring mitigation lands for two listed bird species as required by the biological opinion. Sierra Club v. Marsh, 816 F.2d 1376, 1385–86 (9th Cir. 1987), abrogated on other grounds as recognized in Cottonwood Envtl. Law Ctr. v. U.S. Forest Serv., 789 F.3d 1075, 1088–91 (9th Cir. 2015).

The 2003 BiOp concluded that Fort Peck Dam operations jeopardize the pallid sturgeon. NUSACE0026405–07. These operations change natural flow patterns by eliminating high flows from runoff in the spring. Id.; NUSACE0026501. The water released from Fort Peck Dam is also abnormally cold. NUSACE0026405–07; NUSACE0026501–02. These changes to natural flows and temperatures combine to preclude pallid sturgeon spawning and to increase the amount of drift distance required for larval development. NUSACE0026405–07; NUSACE0026501–02. These problems are exacerbated when water levels in Lake Sakakawea are high, further shortening the available larval drift distance. NUSACE0026406. See also NUSACE0026502, NUSACE0026407.

To ameliorate these specific threats to the pallid sturgeon's survival and recovery, the Service prescribed three different elements of the 2003 BiOp's

RPA.[24] First, under RPA II, the Corps is required to "unbalance" the upper three Missouri River reservoirs, to provide for the release of larger spring flows from the reservoir that has the highest water levels on a rotating three-year schedule. NUSACE0026469–70. Second, under RPA VII, the Corps must modify the flows from Fort Peck Dam so that the river more closely mimics the natural hydrograph to provide the spawning cue for adults. NUSACE0026480–81. This RPA element instructed the Corps to implement "mini-flow tests" by 2004 at the latest, and thereafter to implement the flow enhancements once any technical issues were resolved. Id. Third, RPA VIII required the Corps to prepare a study within three years to evaluate the feasibility of constructing a temperature control device on the upstream face of Fort Peck Dam. NUSACE0026481–82. If an outside engineering peer review of the study concludes that the device is technically feasible and is cost-effective to provide warmer water temperatures through the summer while continuing to provide hydropower, the Corps is required to implement it. Id. The Service determined that these RPA elements must be implemented in full for the Corps to avoid jeopardizing the pallid sturgeon by its operation of Fort Peck Dam. NUSACE0026470; NUSACE0026475. Indeed, the

[24] The remaining RPA elements, not at issue here, involve habitat-creation benchmarks, propagation and stocking efforts, research and monitoring activities, and reporting requirements. See NUSACE0026464–69, 70–8080, 82–83.

Service predicted that the Corps' failure to implement the flow changes alone would lead to the species' extirpation by 2018. NUSACE0026481.

The Corps has never implemented any of these RPA elements. Supra Statement of Facts, Section III. The Corps has never conducted the tests for flow enhancements under RPA VII, nor has it implemented the unbalancing requirements under RPA II. Id. As for the temperature control device and feasibility study requirements of RPA VIII, the Corps started investigating the implementation of such a device, but abandoned the effort even after two studies concluded a device was feasible. Specifically, the Corps completed the "Fort Peck Temperature Control Device Reconnaissance Study" in 2009, which identified a submerged weir as a means of controlling water temperatures. ACE0009833–37 (describing 2009 study). As conceived, the weir is a flexible curtain that would sit below Fort Peck Lake's surface and pass warmer water from the upper portion of the water column into the intake area. ACE0009823; ACE0009838. A Corps contractor completed a follow-up study in 2012 that developed the design and cost estimates and recommended more research. ACE0009818–10250. As of 2016, the Corps has apparently dropped the recommendation from the follow-up study and

does not intend to pursue the submerged weir. See NUSACE0000307 (deeming the submerged weir infeasible).[25]

Because it has failed to implement these RPA elements from the 2003 BiOp, the Corps is violating ESA section 7(a)(2). The Corps' reliance for many years on its letter agreements with the Service to exchange its funding of the Intake Project for implementation of the Fort Peck Dam RPA elements does not excuse this violation. Not only were these letter agreements unlawful, the Intake Project on the Yellowstone, even if successful, does not address the jeopardy to the pallid sturgeon caused by the Corps' separate operation of Fort Peck Dam on the Missouri. While the Corps has apparently now backed off this quid pro quo aspect of the Intake Project, it has yet to implement any of the actions that the Service determined were necessary to ameliorate the jeopardy caused by operations at Fort Peck Dam. Defenders is entitled to judgment on Claim 1.

B. The Corps is Taking Pallid Sturgeon Without a Valid Incidental Take Statement in Violation of ESA Section 9

The Supreme Court has held that, while an agency is "technically free to ignore the Biological Opinion and proceed with its proposed action, it does so at its own peril (and that of its employees), for 'any person' who knowingly 'takes' an

[25] The State of Montana recently noted that temperature control devices have been successfully installed at other dams in Montana for the benefit of native species. NUSACE0056304.

endangered or threatened species is subject to substantial civil and criminal penalties, including imprisonment." Bennett, 520 U.S. at 170. Where an agency fails to comply with a biological opinion, it loses the protection from section 9 liability that the ITS provides. Id. See also Ctr. for Biological Diversity, 698 F.3d at 1115.

In the 2003 BiOp ITS, the Service details how Fort Peck Dam operations cause take:

> This incidental take in the form of "harm" to pallid sturgeon will come about from significant alterations in the natural hydrograph during spawning periods when unnatural seasonal flows and changes in water constituents such as turbidity and temperature preclude spawning and/or cause mortalities to early life stages, and by significantly disrupting normal behavioral patterns which include but are not limited to breeding, feeding, or sheltering ….

NUSACE0026501. These harms include: (1) "[l]oss of spawning cue from significantly altered hydrograph, and reduced temperatures during spawning period," NUSACE0026501; and (2) "[m]ortalities of early life stages from reduced water temperatures, shortened river segments reducing larval drift distance, high velocities, and reduced forage," NUSACE0026502.

The Service issued this ITS on the condition that the RPA would be fully implemented. NUSACE26501 (2003 ITS is "based on the premise that the [RPA] in the 2003 [BiOp] will be implemented"); NUSACE0026464 (2003 BiOp stating that "[i]n order to be exempt from the prohibitions of take under section 9 of the

ESA, the Corps must implement the [RPA elements])." Thus, the Service anticipated that take would occur due to the Corps' operations "between the time the 2003 Biological Opinion is issued and complete implementation of the RPA (approximately 5-10 years)." NUSACE26501. The ITS concludes that "[i]ncidental take at a level which would not allow the pallid sturgeon to naturally reproduce, recruit and survive in the wild … is unacceptable." NUSA0026505. Yet fourteen years later, in the face of the Corps' failure to implement key RPA elements, the incidental take that the Service deemed "unacceptable" continues unabated. Pallid sturgeon still cannot "naturally reproduce, recruit, [or] survive in the wild" as a direct result of the Corps' operations. Supra Statement of Facts, Section III.[26]

Because this take continues, and because the Corps has never implemented the RPA elements in the 2003 BiOp on which the ITS is premised, the agency is violating section 9 of the ESA by taking pallid sturgeon without a valid ITS. See Ctr. for Biological Diversity, 698 F.3d at 1115; Sw. Ctr. for Biological Diversity v. Babbitt, 2000 WL 33907602, at *13 (D. Ariz. Sept. 26, 2000) (finding section 9 violation "because (1) a 'take' has occurred (2) which is attributable to the Project and (3) [Reclamation] is not exempt from a 'take' due to its failure to implement

[26] To the extent any spawning has occurred, as in 2011, larvae were apparently unable to survive. See NUSACE0037285.

the [biological opinion] as mandated"); Am. Rivers v. U.S. Army Corps of Eng'rs, 271 F. Supp. 2d 230, 257–58 (D.D.C. 2003) (plaintiffs likely to succeed on merits of unlawful take claim because Corps failed to implement RPA and take was occurring). Cf. In re Operation of the Mo. River Sys. Litig., 363 F. Supp. 2d 1145, 1160–61 (D. Minn. 2004) ("The Corps has an absolute defense to a Section 9 claim so long as its operations are in accordance with the 2003 BiOp and the terms and conditions of the ITS.") (emphasis in original), aff'd in part, vacated in part, 421 F.3d 618 (8th Cir. 2005).

In a nearly identical situation, a district court granted a preliminary injunction based on its conclusion that the Corps likely violated section 9 by failing to comply with the ITS prescribed for take of the least tern and piping plover in the 2000 BiOp on Missouri River dam operations. See Am. Rivers, 271 F. Supp. 2d at 258. There, as here, the ITS was premised on the implementation of the RPA. Id. at 257. And there, as here, the Corps failed to implement the RPA while allowing ongoing take of the listed species. Id. at 257–58. Defenders is entitled to summary judgment on Claim 2.

VII. THE COURT SHOULD SET ASIDE THE APPROVALS FOR THE INTAKE PROJECT AND SET EXPEDITIOUS DEADLINES FOR THE AGENCIES TO BRING THEIR ONGOING UNLAWFUL OPERATIONS INTO COMPLIANCE WITH THE ESA

Pursuant to the APA, Defenders requests that the Court hold unlawful and vacate the 2016 BiOp, 2016 EIS and ROD, and 2016 CWA Analysis approving the

Intake Project. See 5 U.S.C. § 706(2) (where an agency acts arbitrarily and contrary to law, the Court "shall … hold unlawful and set aside" the challenged action). Absent lawful approvals, the Agencies cannot proceed with the Intake Project.

Defenders also seeks declaratory relief that Reclamation's Intake Dam operations violate ESA sections 7 and 9. Because Reclamation may not lawfully proceed with either the Intake Project or its ongoing operations, Defenders requests that the Court order Reclamation to finalize a plan to comply with the ESA by a date certain and to retain jurisdiction over this case until this plan is implemented.

Developing and implementing a lawful alternative to the Intake Project and ongoing operations at Intake will require formal ESA consultation with the Service and additional public and analytical procedures to comply with NEPA and the CWA. ESA regulations require formal consultations to be completed within 135 or 315 days, depending on whether the proposal involves "major construction activities."[27] However, a more expeditious timeline is warranted in this case. Reclamation and the Corps have already expended significant resources to develop

[27] For formal consultations involving "major construction activities," 50 C.F.R. § 402.12(b), ESA regulations provide for 180 days for the action agency to complete a biological assessment, id. § 402.12(i), 90 days for the Service to complete consultation once the action agency has initiated formal consultation, id. § 402.14(e), and an additional 45 days for it to issue a biological opinion, id., for a total of 315 days.

alternatives, including the Multiple Pump Alternative, that would provide for full river passage for the pallid sturgeon. Moreover, the wild population of pallid sturgeon in the Upper Missouri River Basin has been nearly extirpated by Reclamation's 27-year delay since the species was listed in implementing a lawful alternative to its ongoing operations.

Defenders also requests declaratory relief that the Corps' ongoing operation of Fort Peck Dam is violating ESA sections 7 and 9. Because the Corps may not lawfully proceed with its current operations, Defenders requests that the Court order the Corps to finalize a plan to comply with the ESA by a date certain and to retain jurisdiction over this case until this plan is implemented.

The Corps may remedy its ESA violations by taking the steps necessary to implement the 2003 BiOp RPA elements or by completing a formal ESA consultation with the Service on actions or an RPA that alleviate the threats to the pallid sturgeon in a manner that complies with the ESA. Because the Corps has already reinitiated consultation, and given the precarious status of the wild population of the pallid sturgeon, Defenders requests that the Court set a deadline for the Corps to submit its plan to comply with the ESA within 90 days of the Court's order.

CONCLUSION

Defenders respectfully requests that this Court grant its motion and issue the relief as set forth above.

Respectfully submitted this 21st day of December, 2017.

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CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing was served today via the Court's CM/ECF system on all counsel of record.

/s/ McCrystie Adams
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CERTIFICATE OF COMPLIANCE

Pursuant to Local Rule 7.1(d)(2), I hereby certify that the foregoing brief contains 19,491 words, as determined by the word count function of Microsoft Word 2013. This word count is in compliance with the Court's July 24, 2017 Scheduling Order, which provides that Plaintiffs' opening brief shall not exceed 20,000 words. See Doc. 158 ¶ 3(vi), as amended on other grounds, Doc. 168.

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